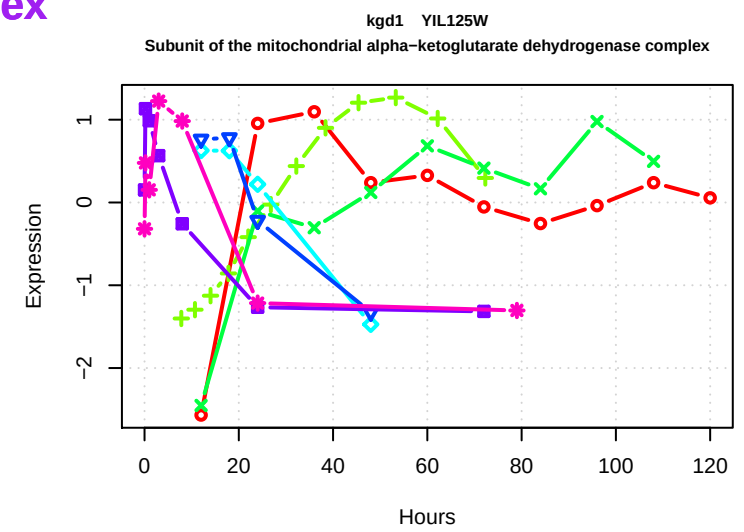
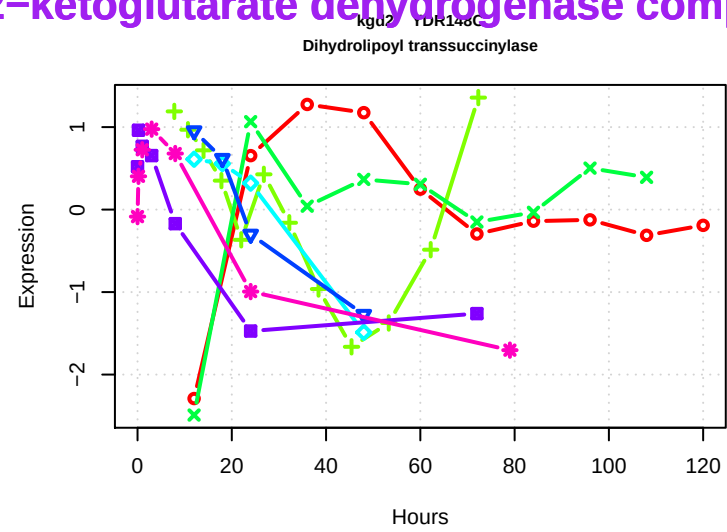
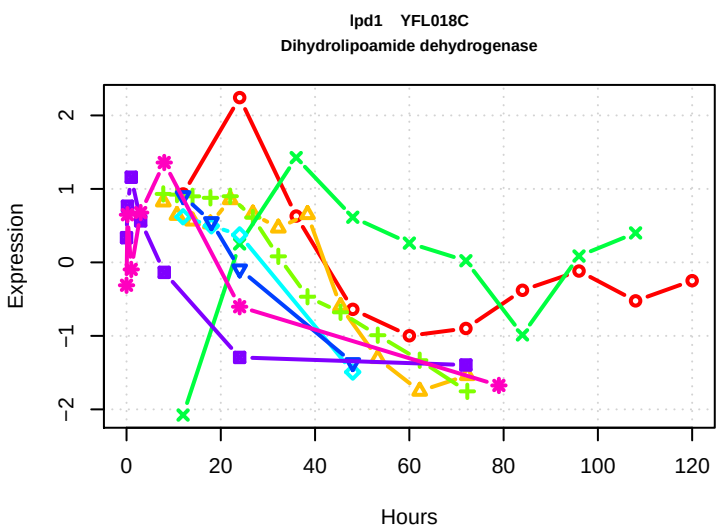


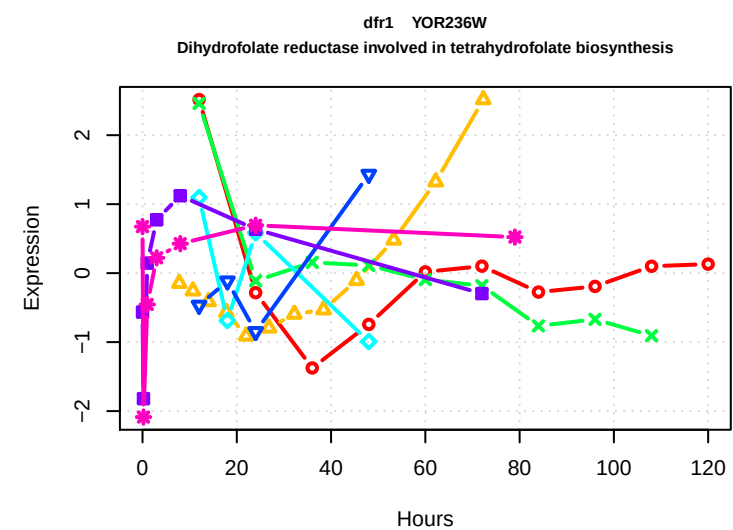
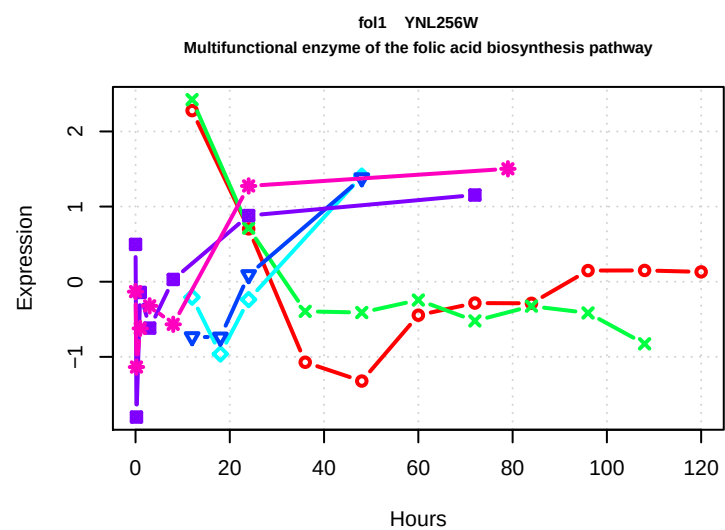
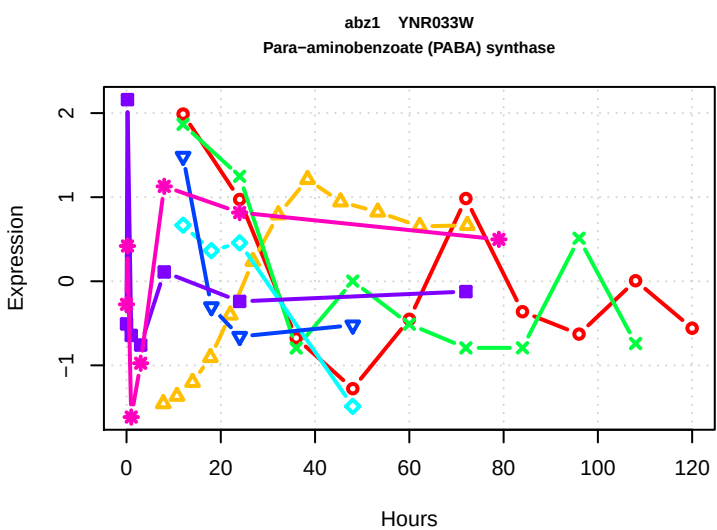
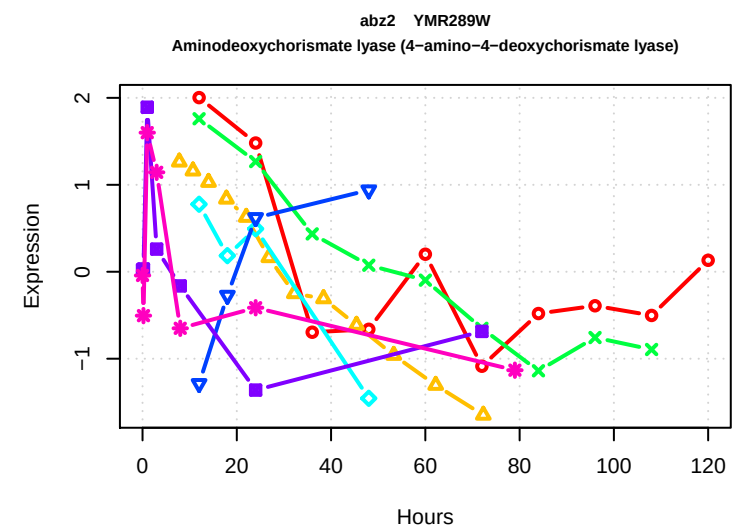
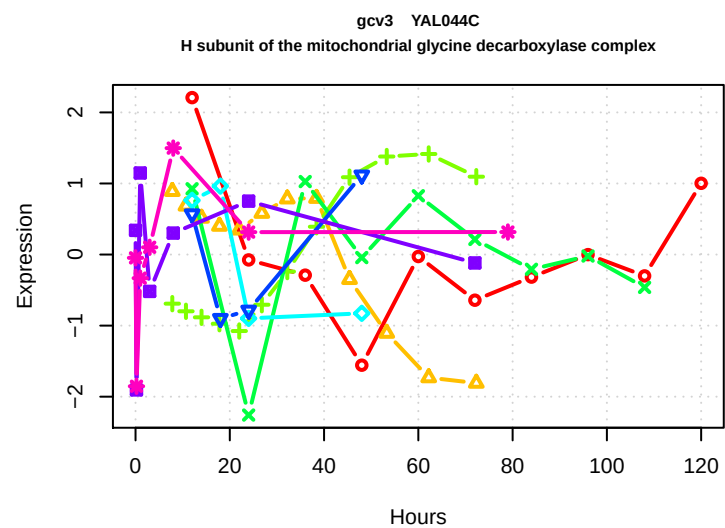
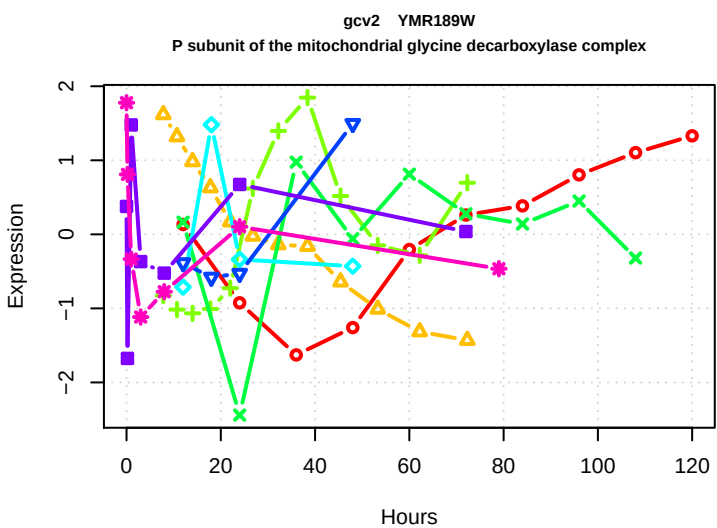
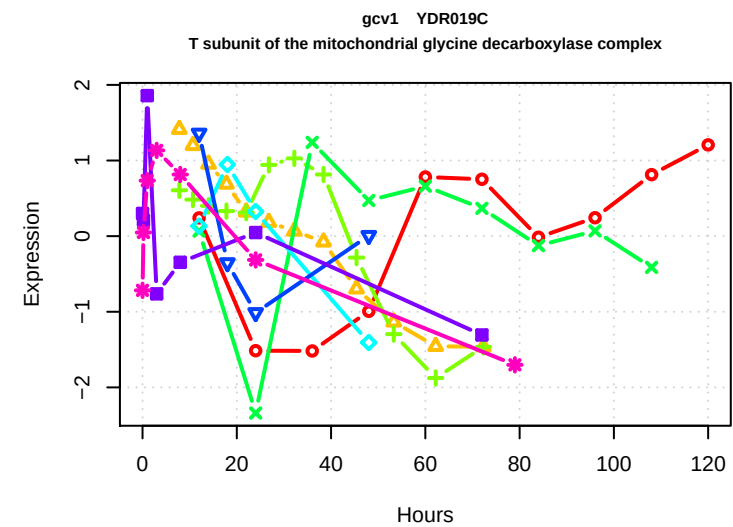
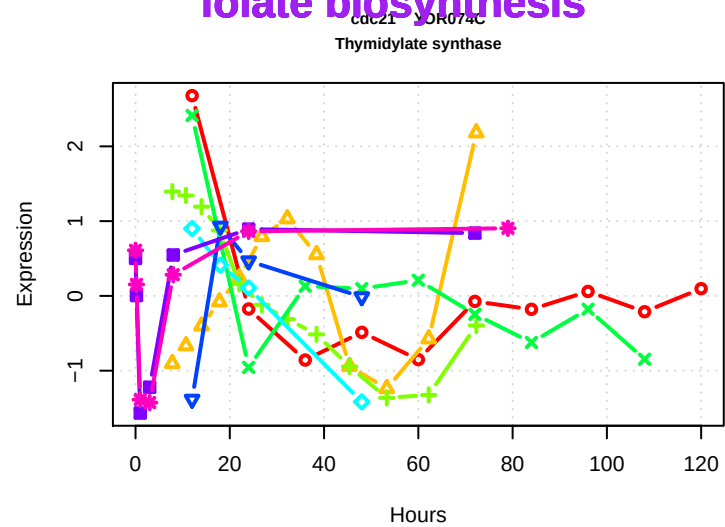
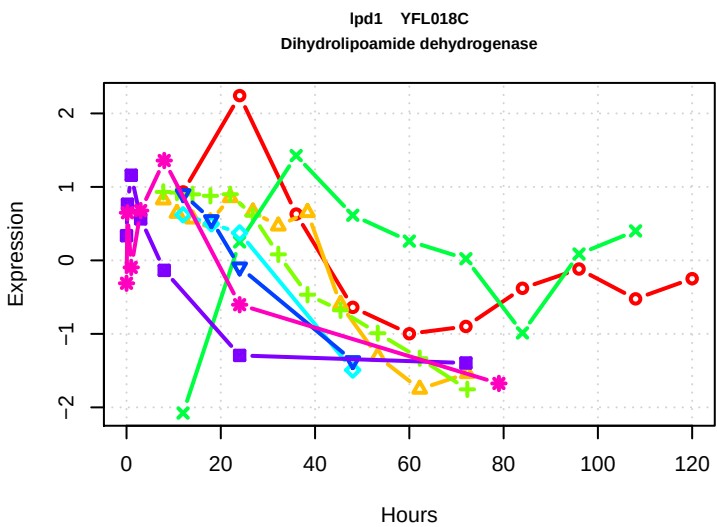
2-ketoglutarate dehydrogenase complex

2-ketoglutarate dehydrogenase complex

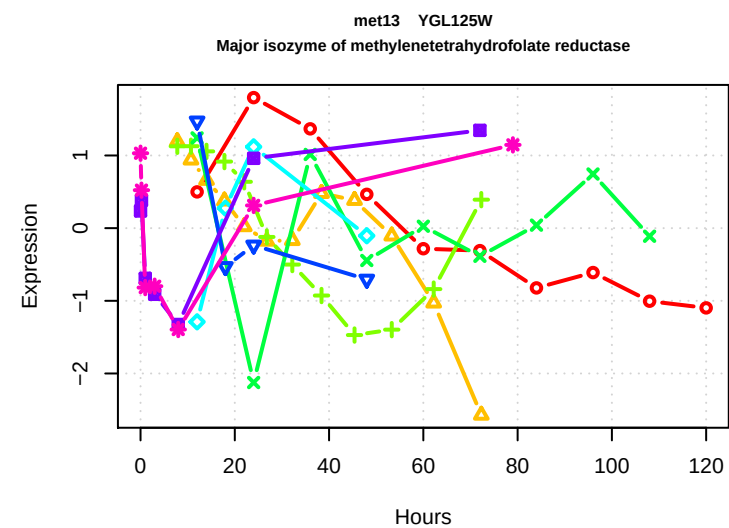
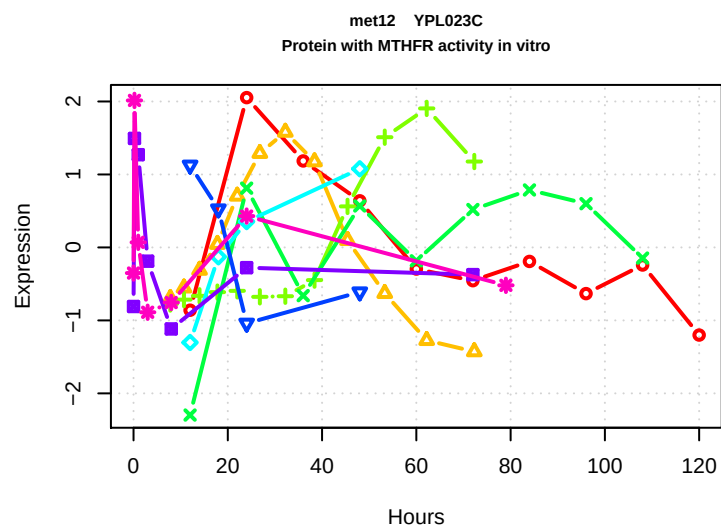
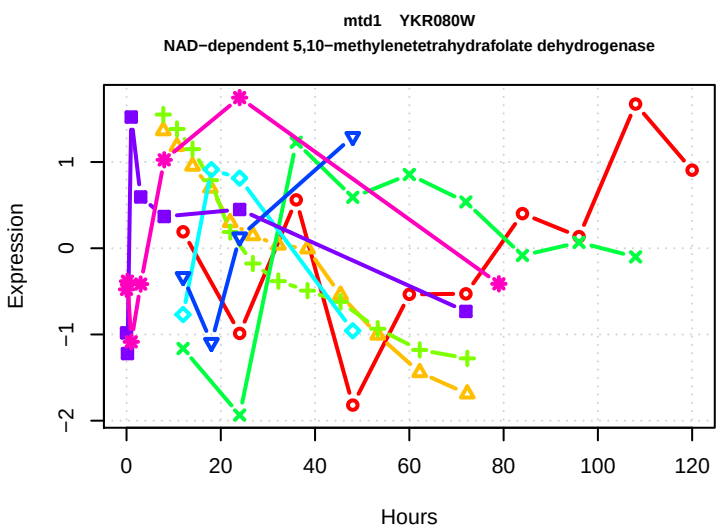
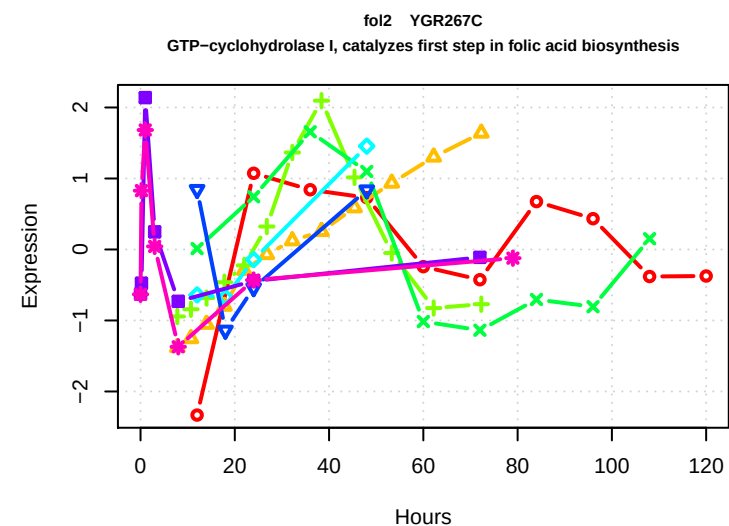
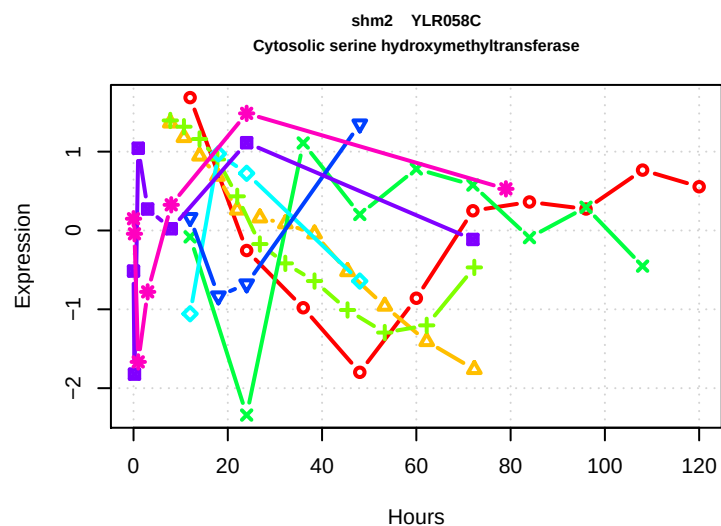
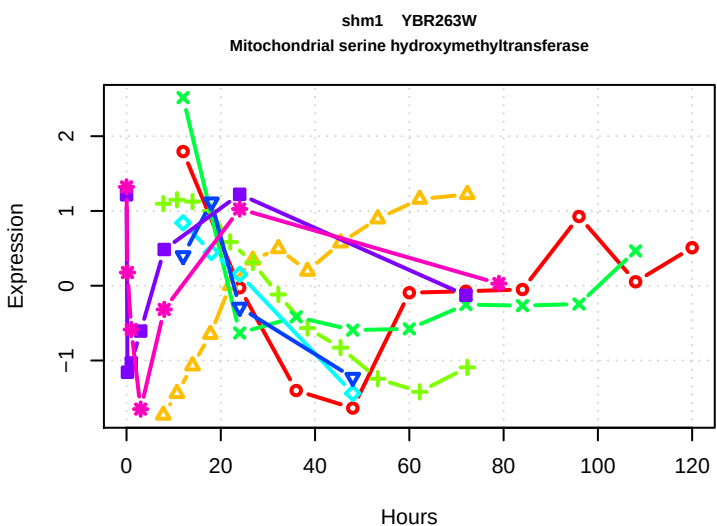
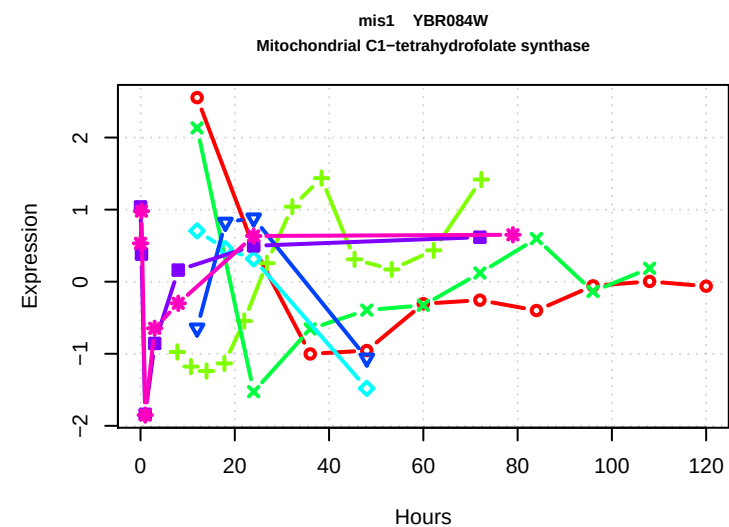
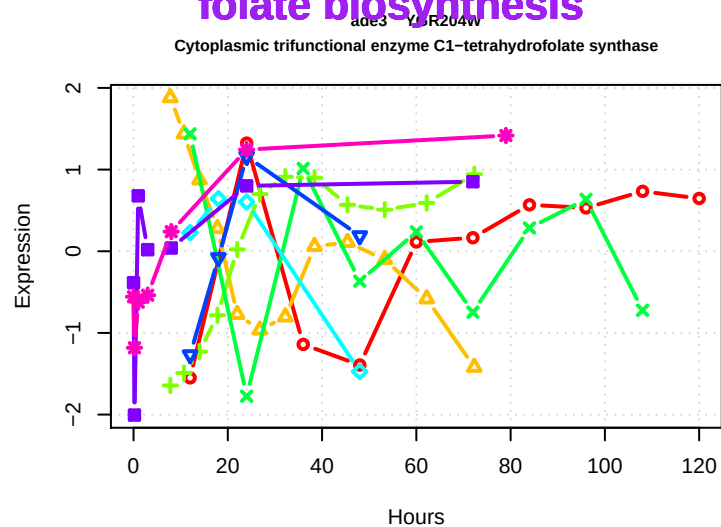
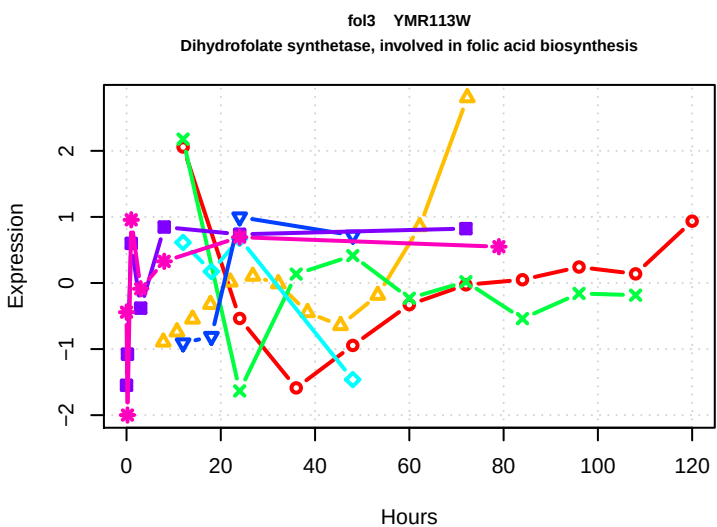


folate biosynthesis

folate biosynthesis

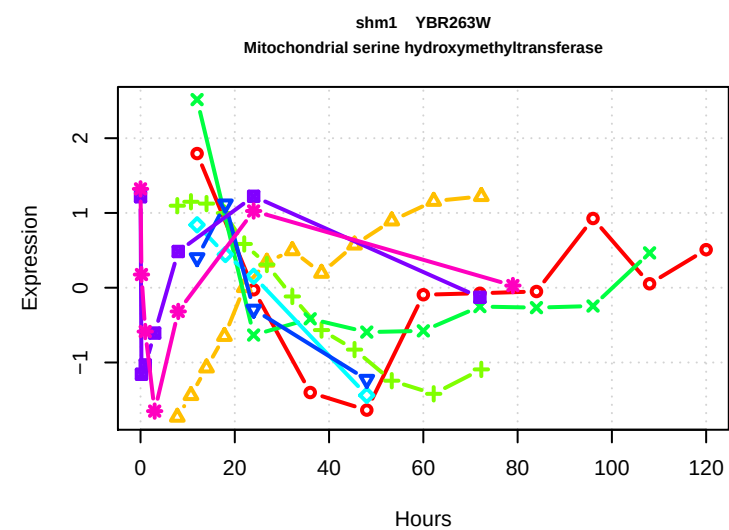
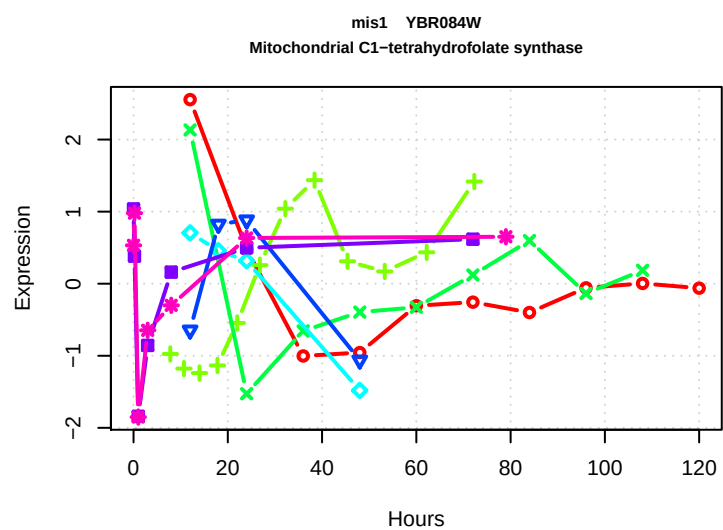
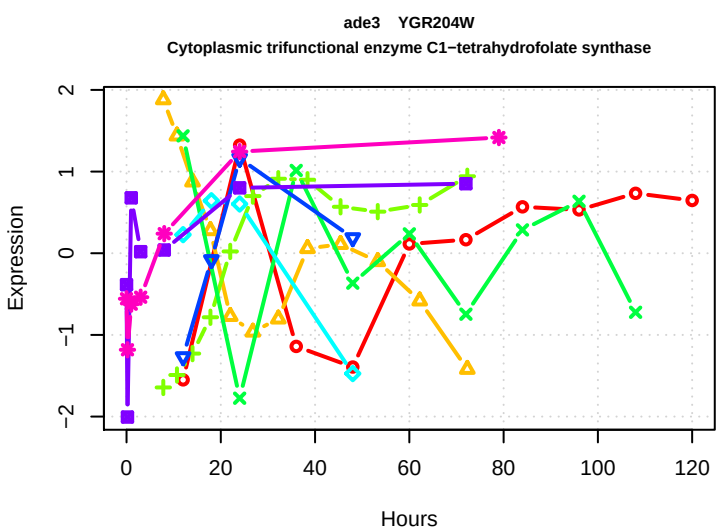
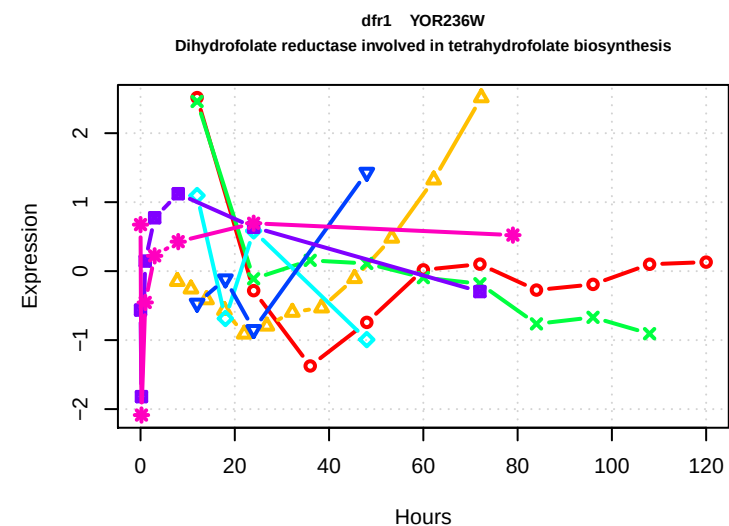
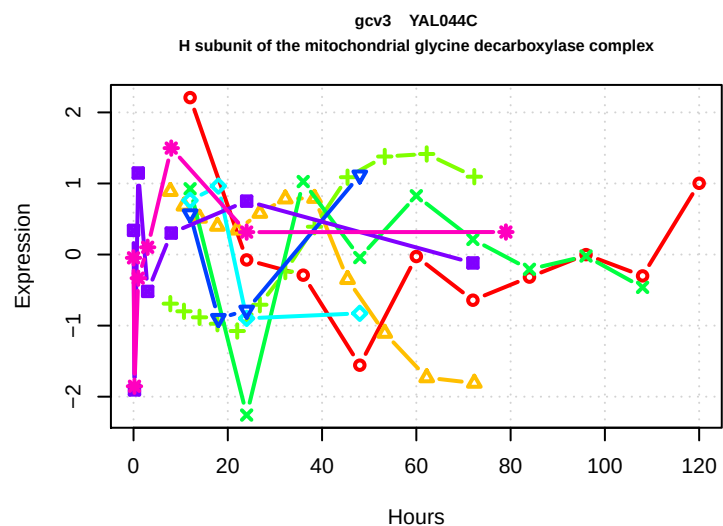
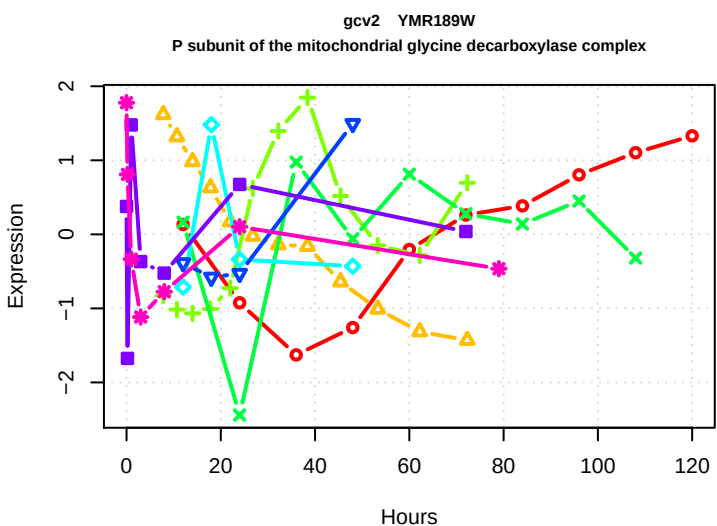
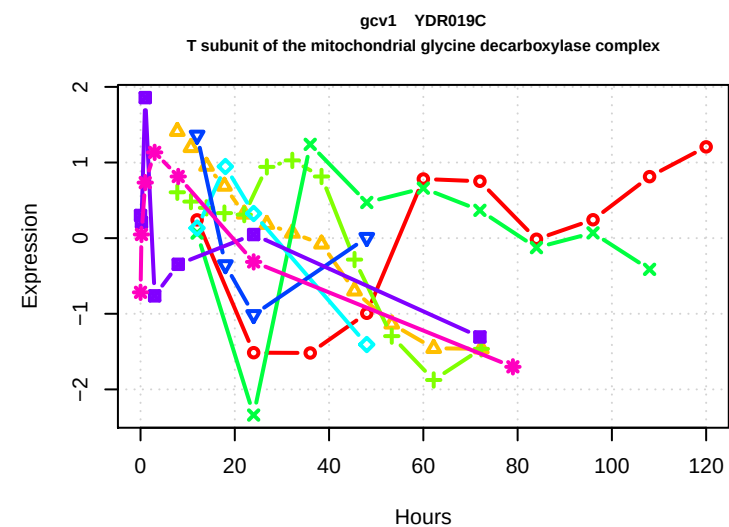
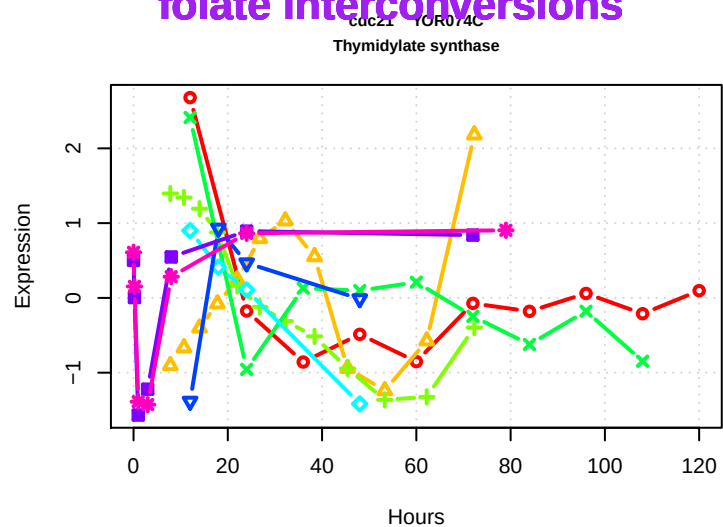
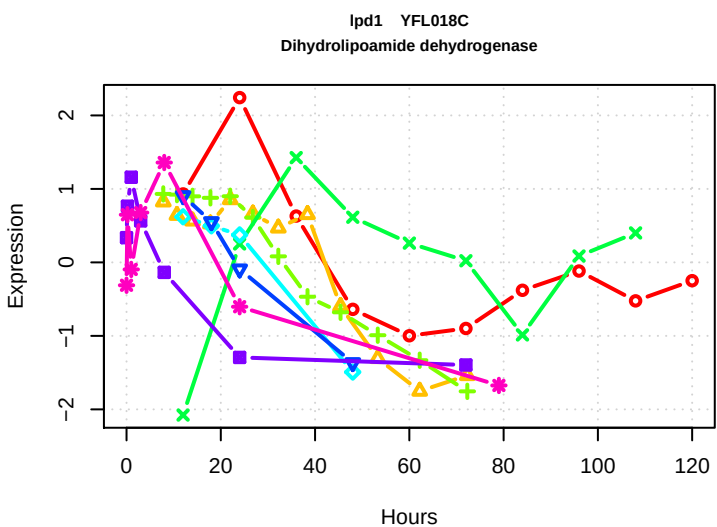


folate biosynthesis

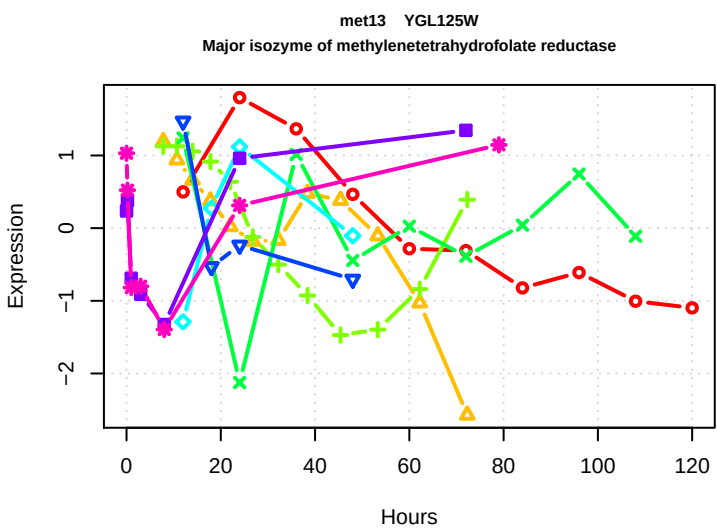
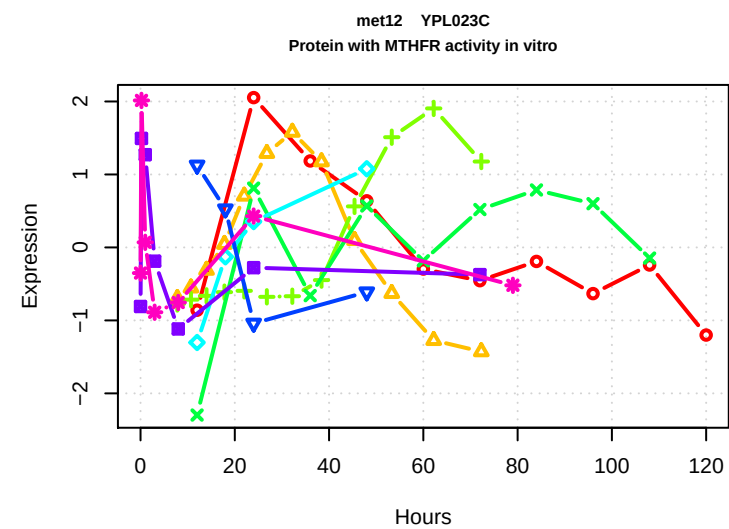
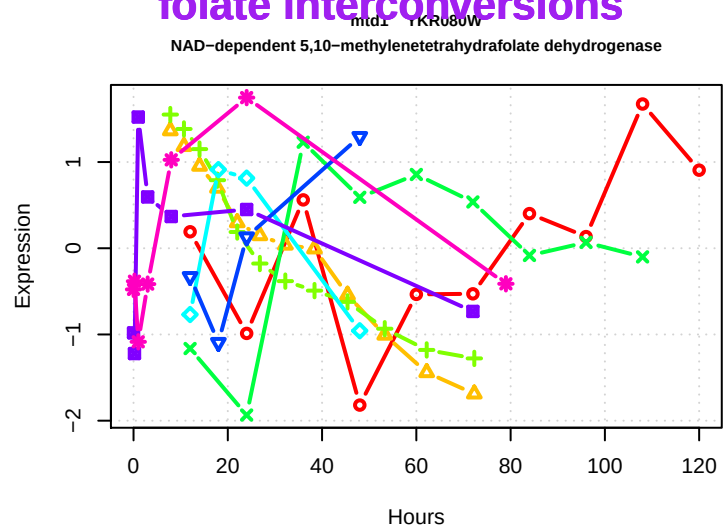
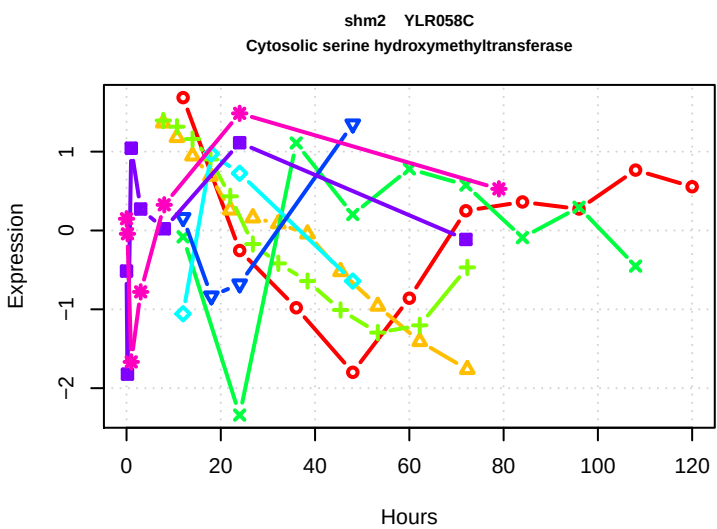


folate interconversions

folate interconversions

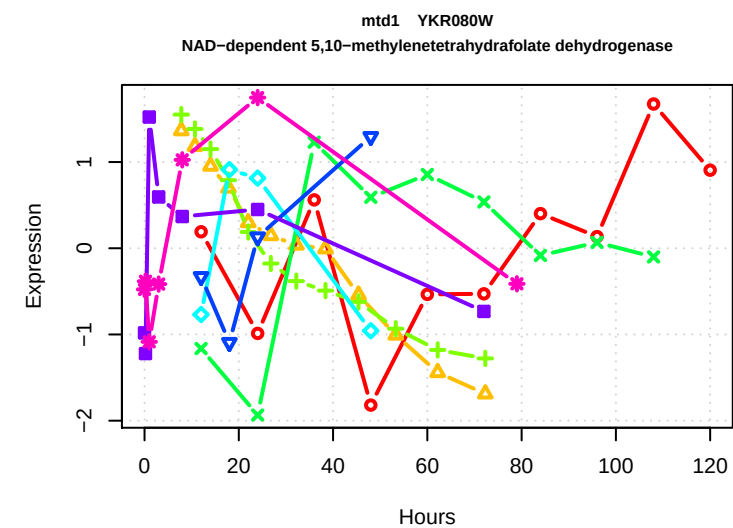
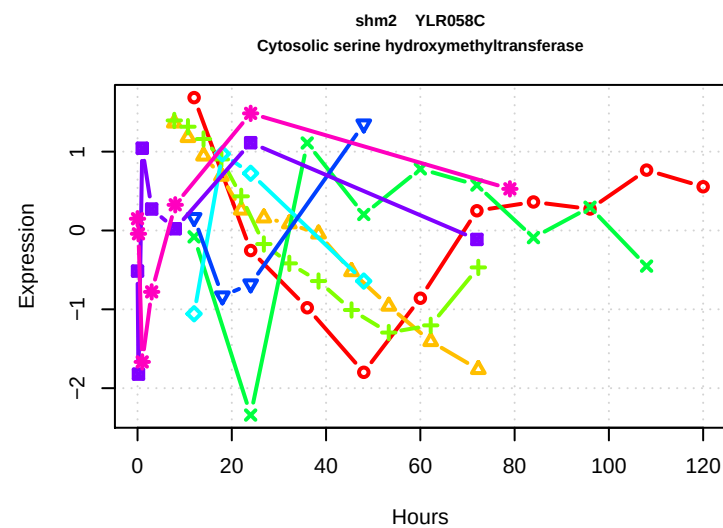
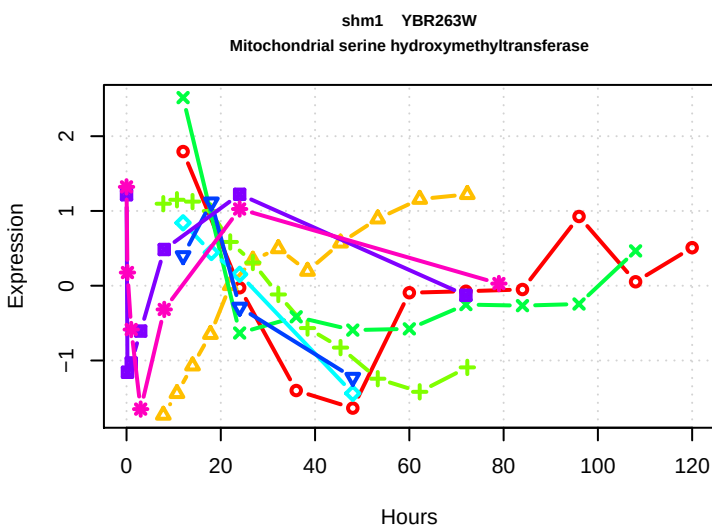
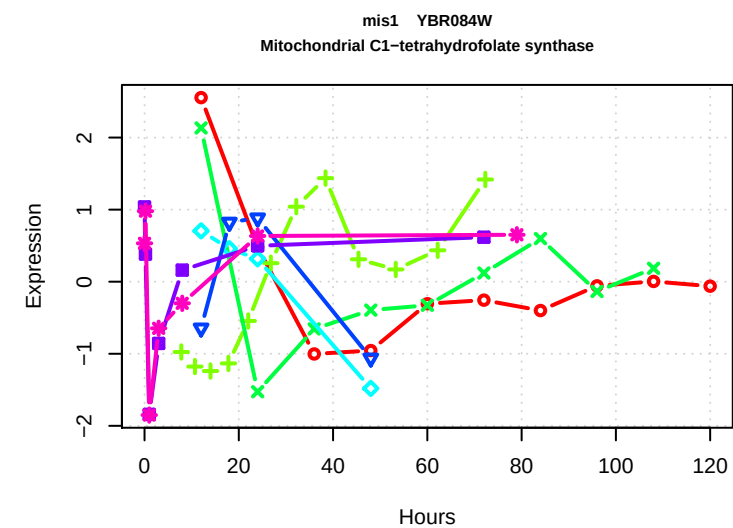
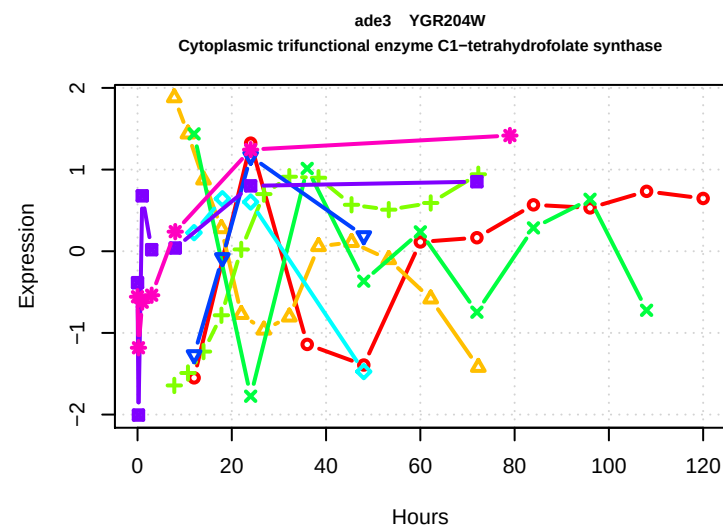
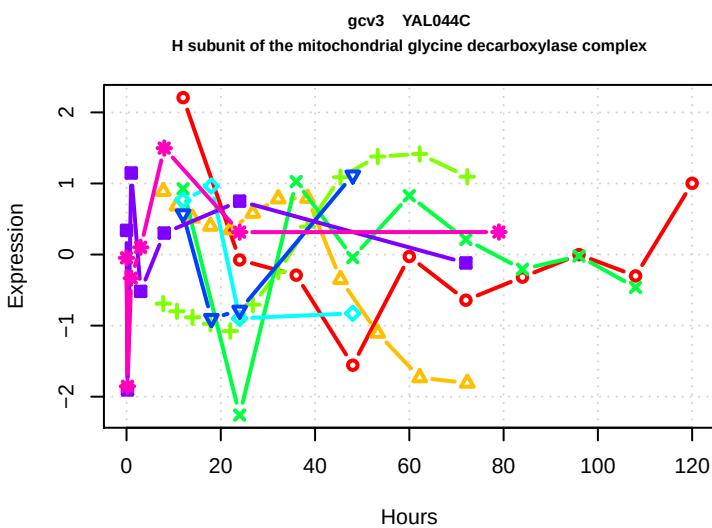
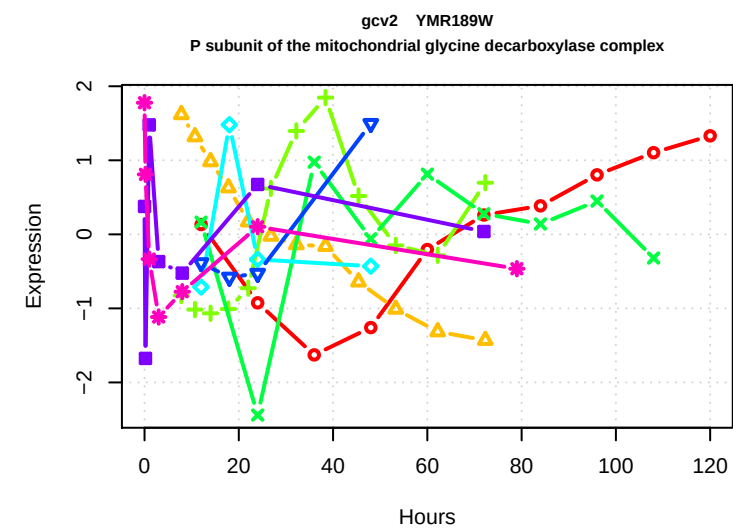
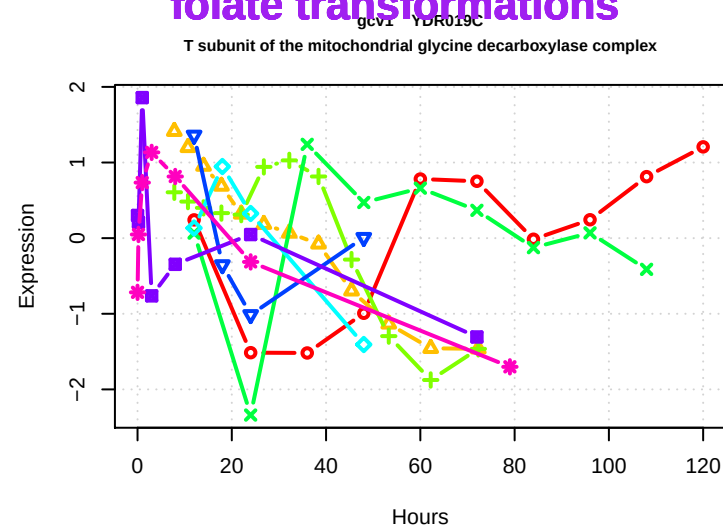
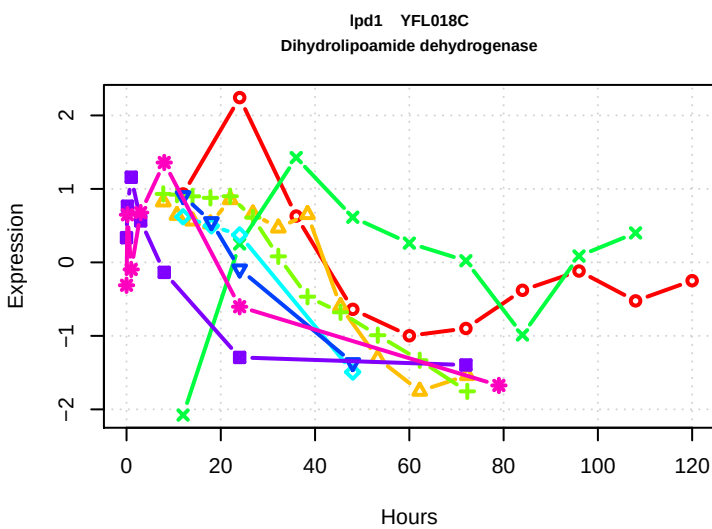


folate interconversions

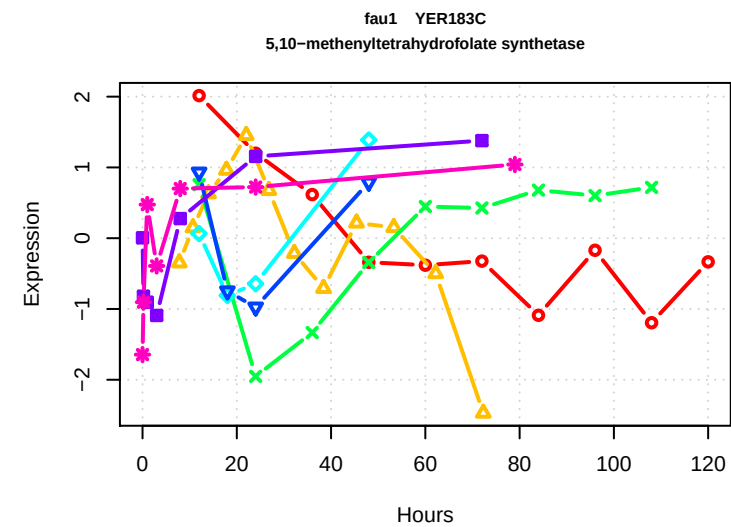
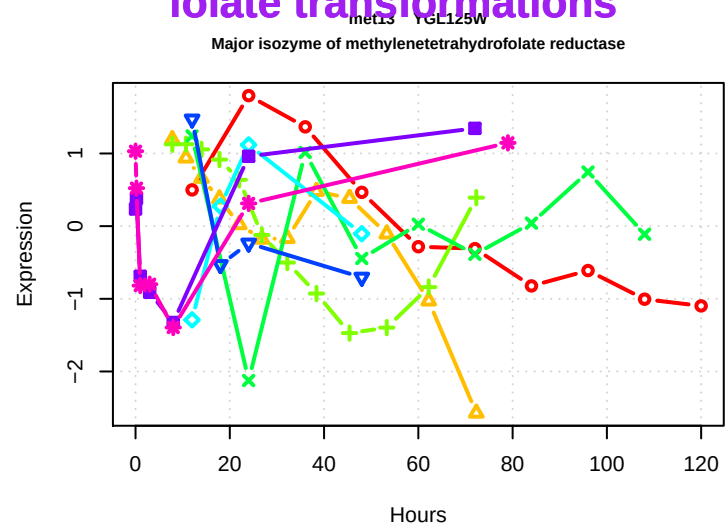
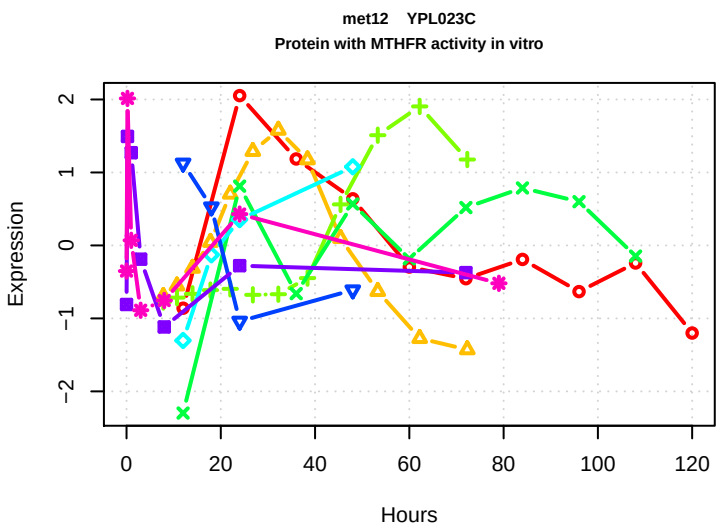


folate transformations

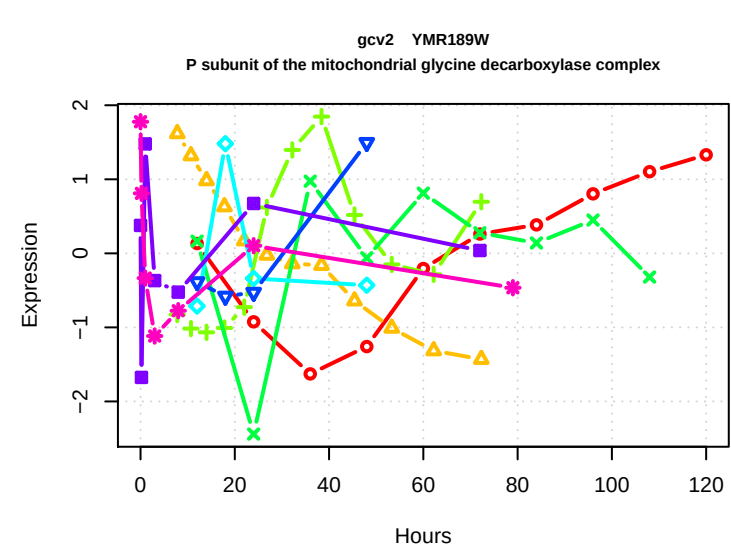
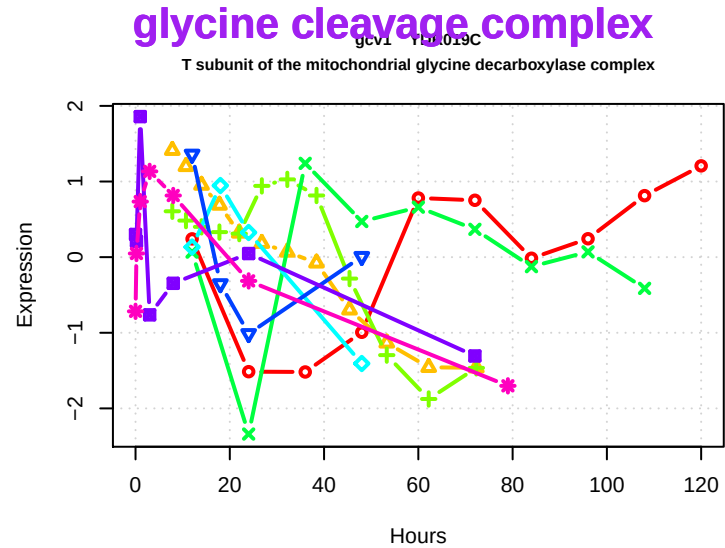
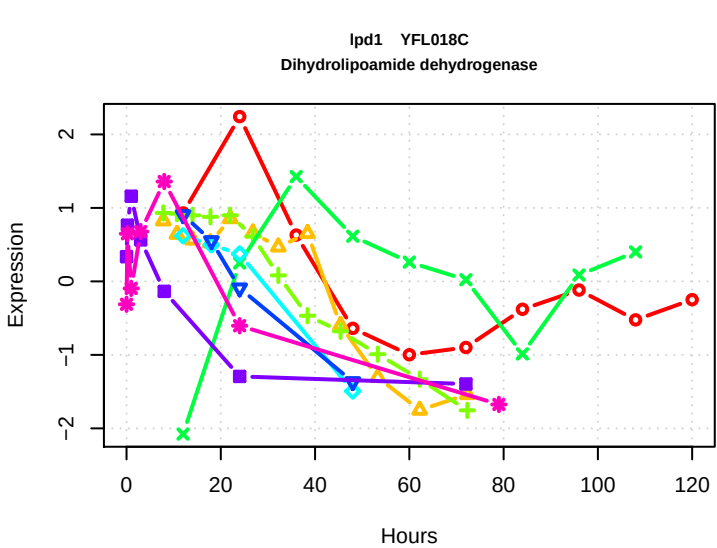
folate transformations



folate transformations

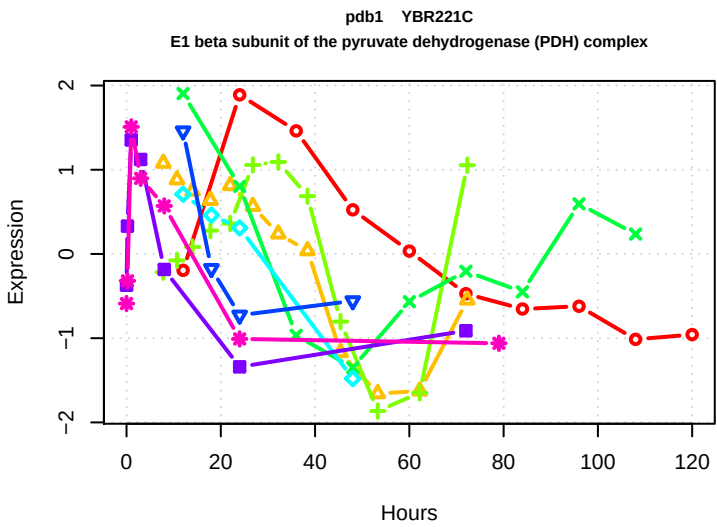
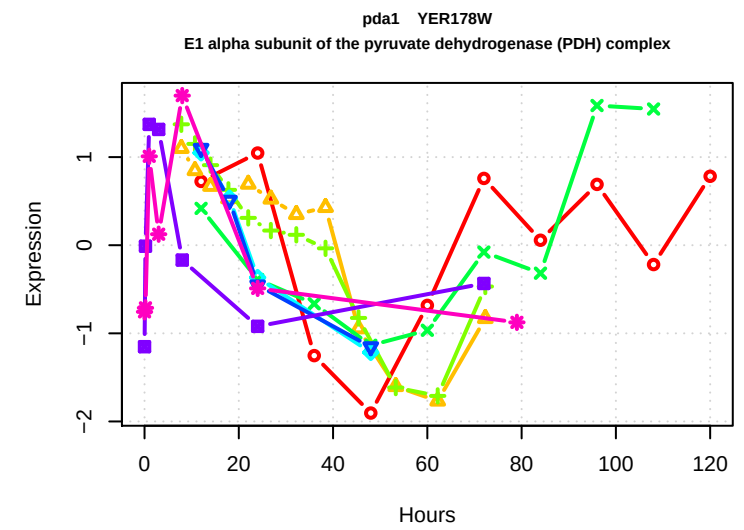
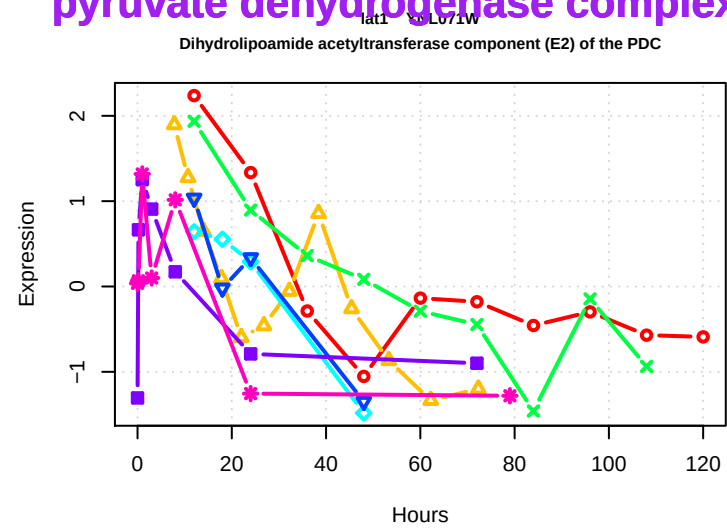
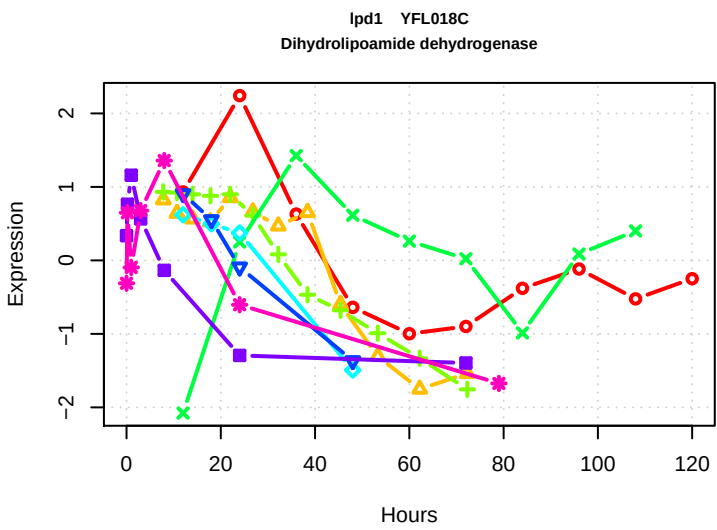


glycine cleavage complex



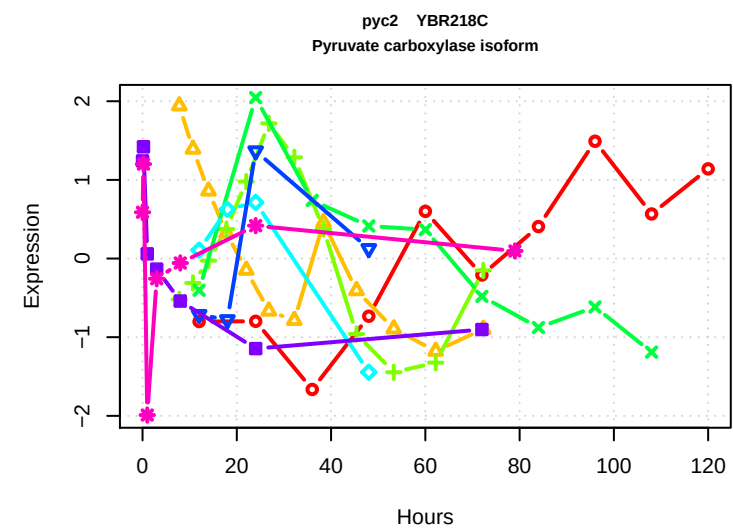
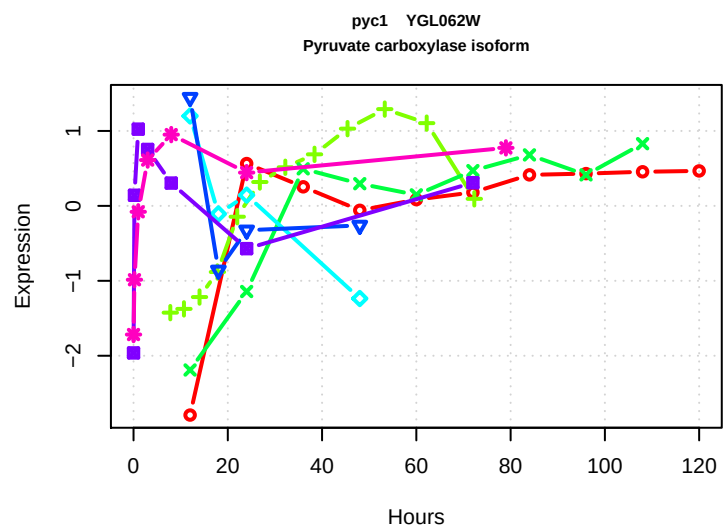
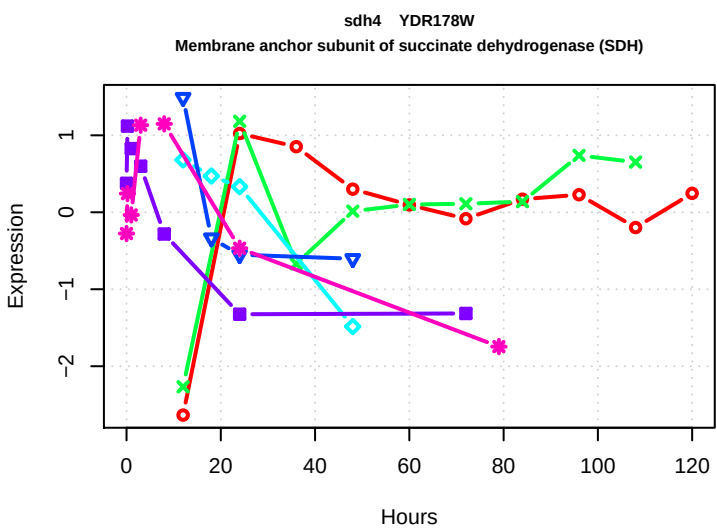
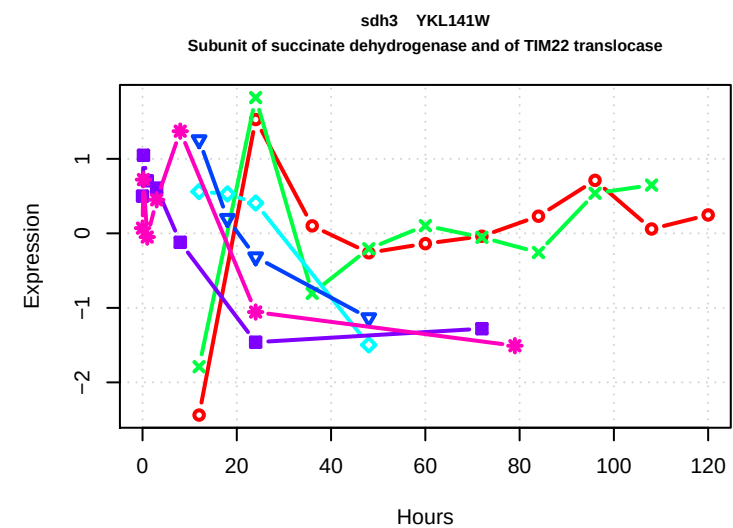
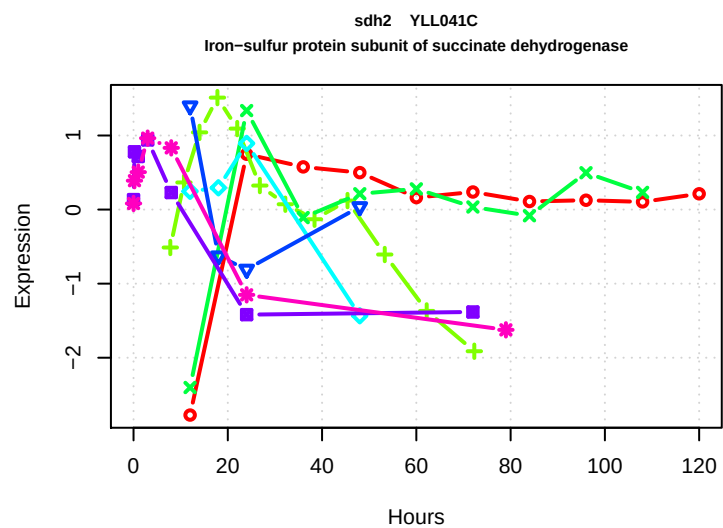
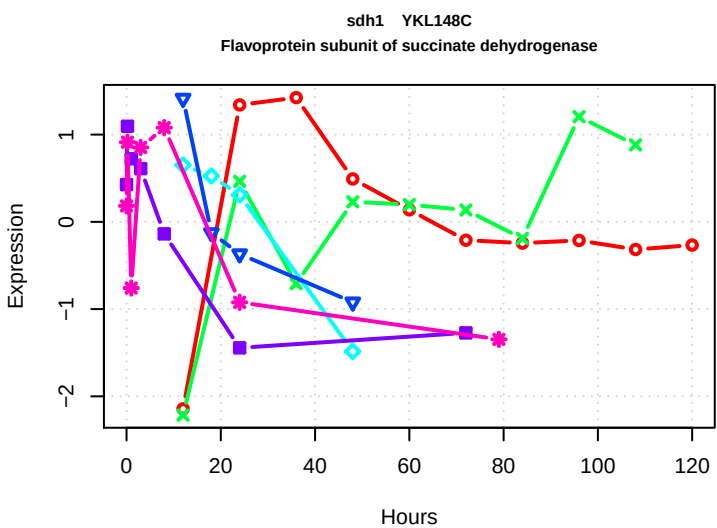
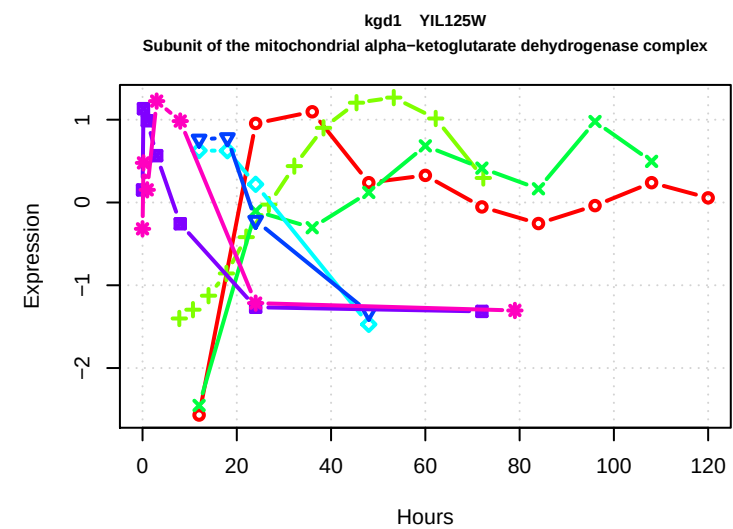
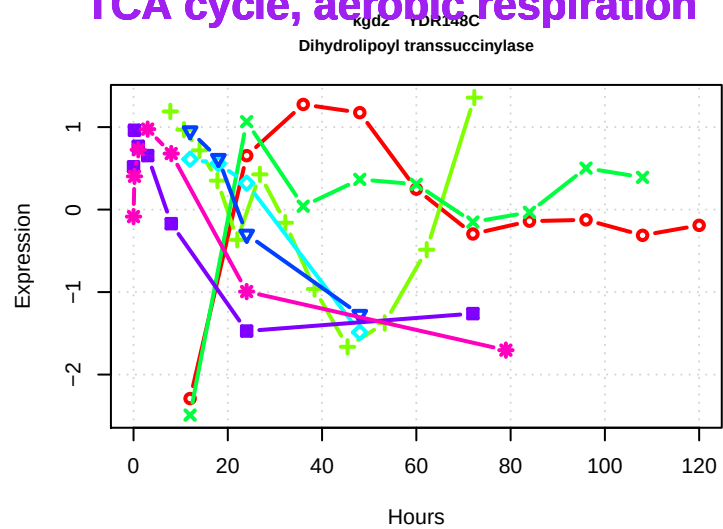
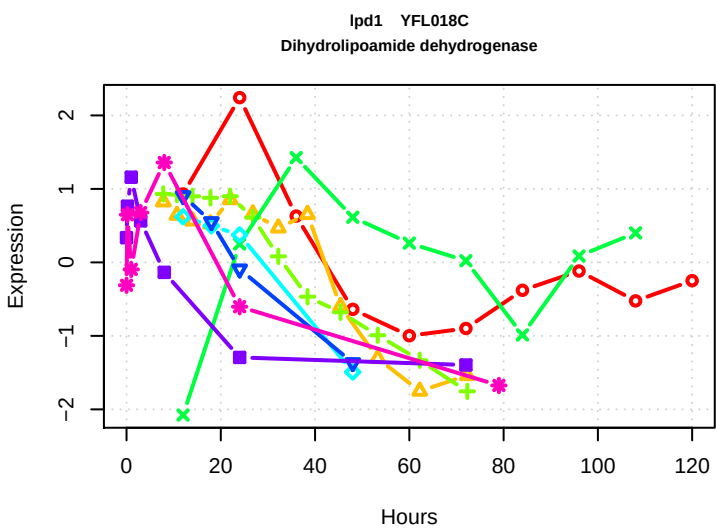
pyruvate dehydrogenase complex

pyruvate dehydrogenase complex

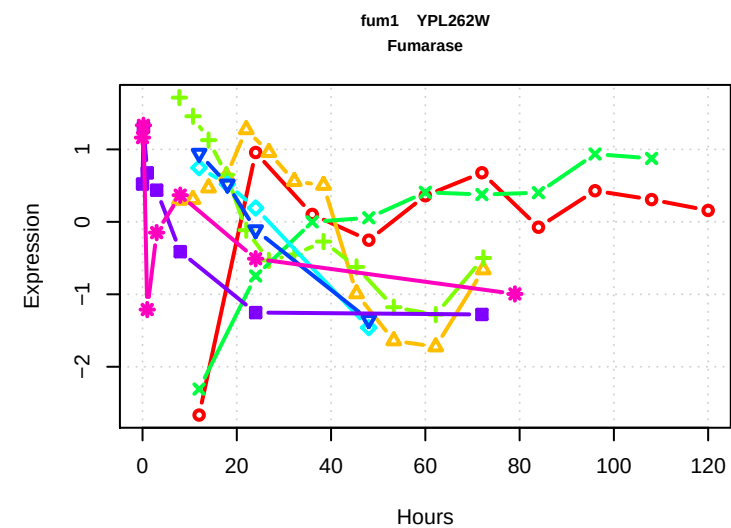
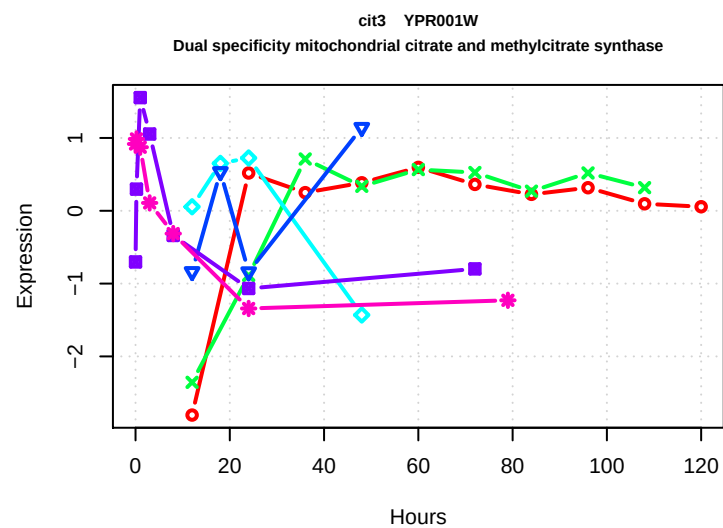
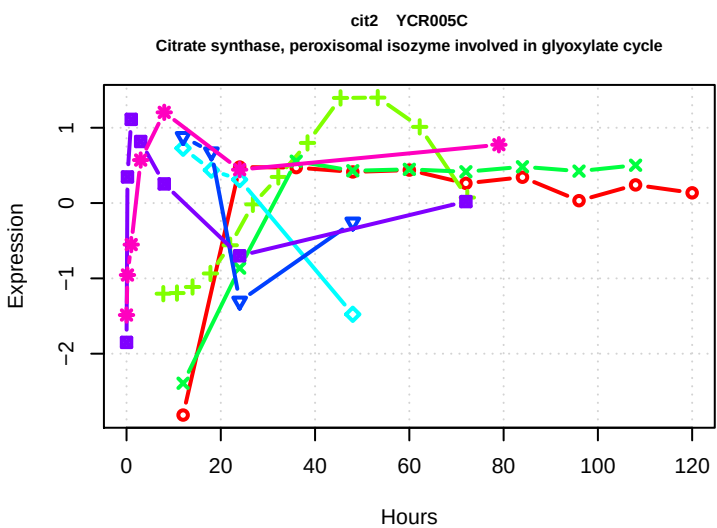
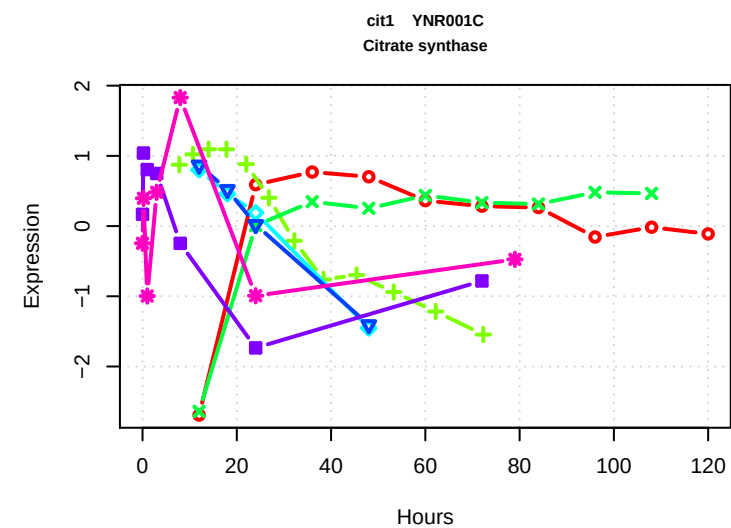
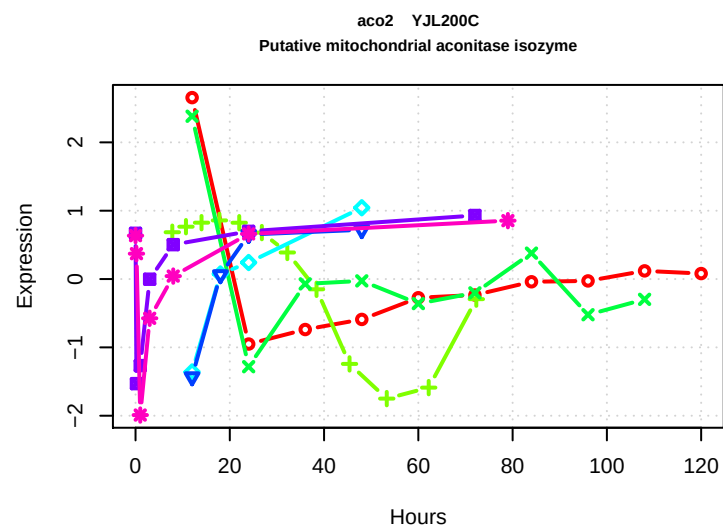
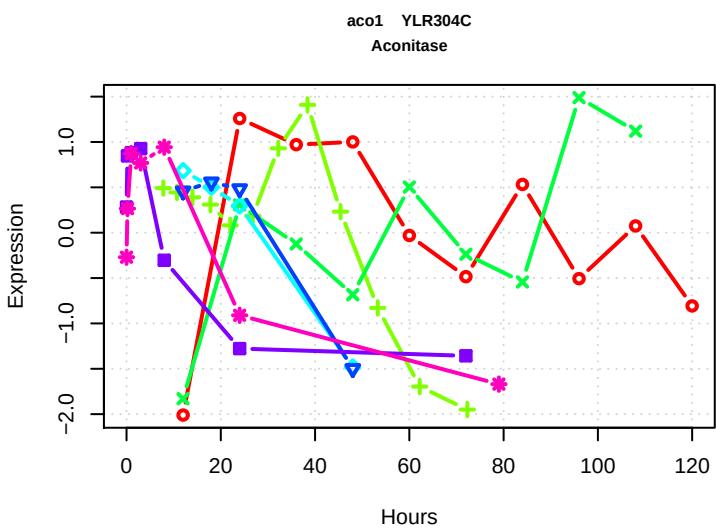
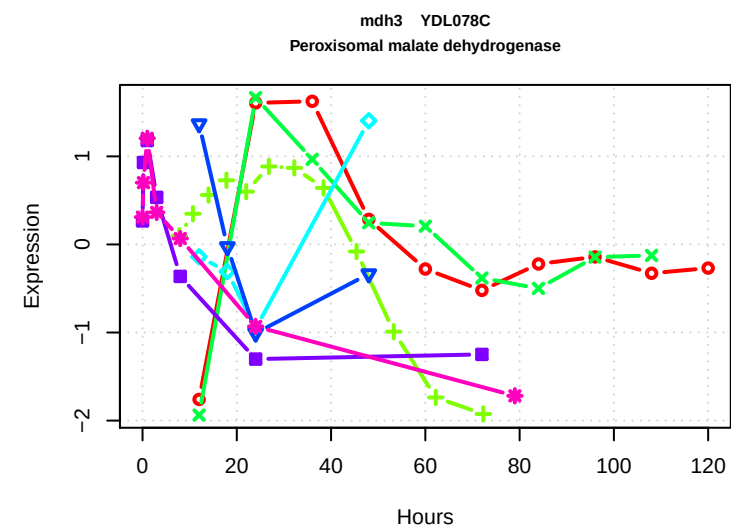
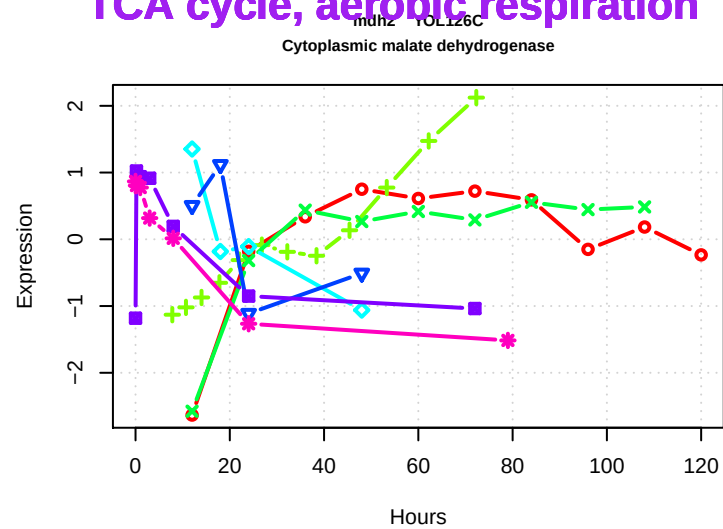
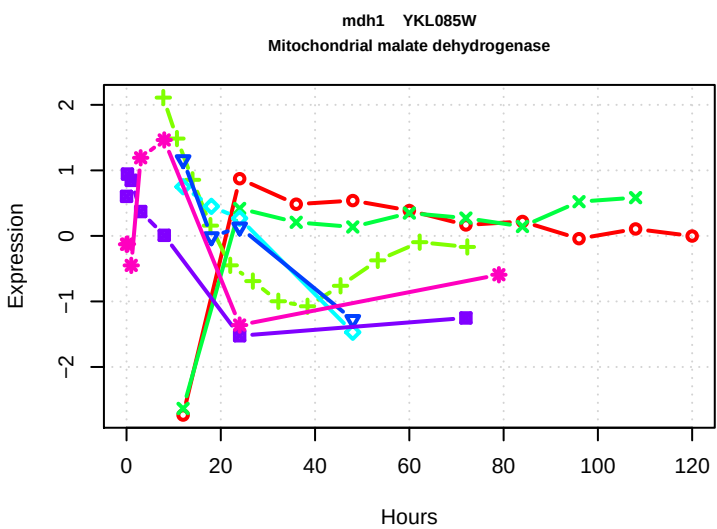


TCA cycle, aerobic respiration

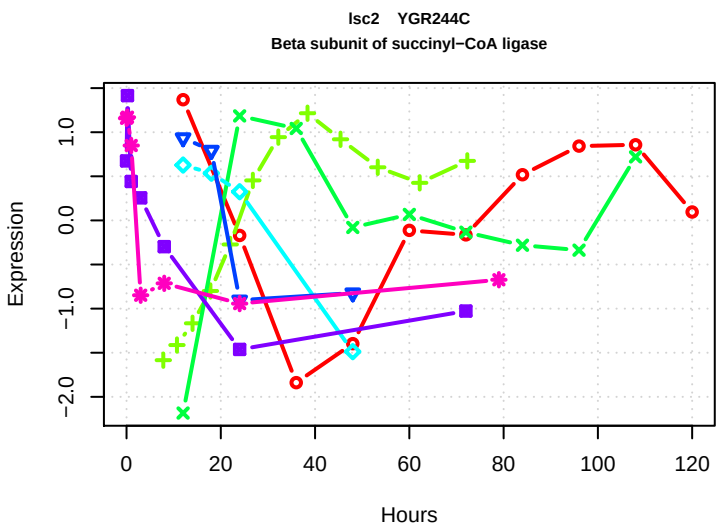
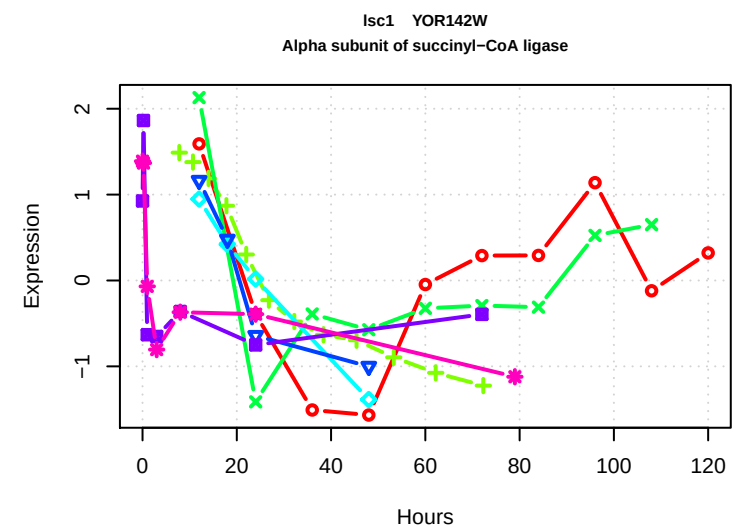
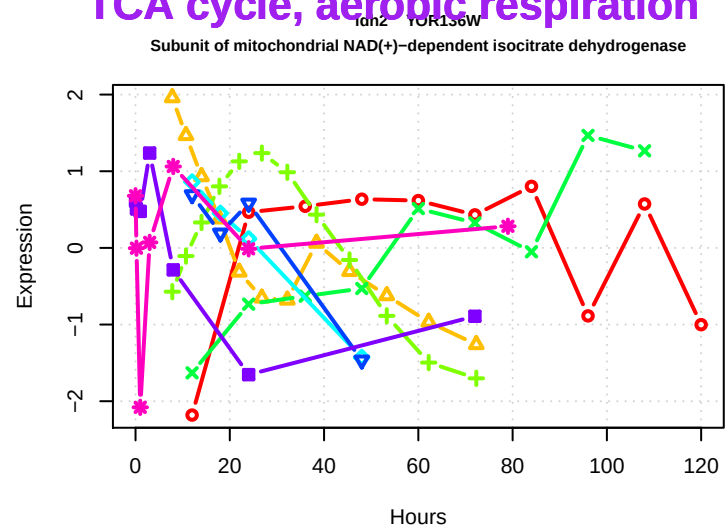
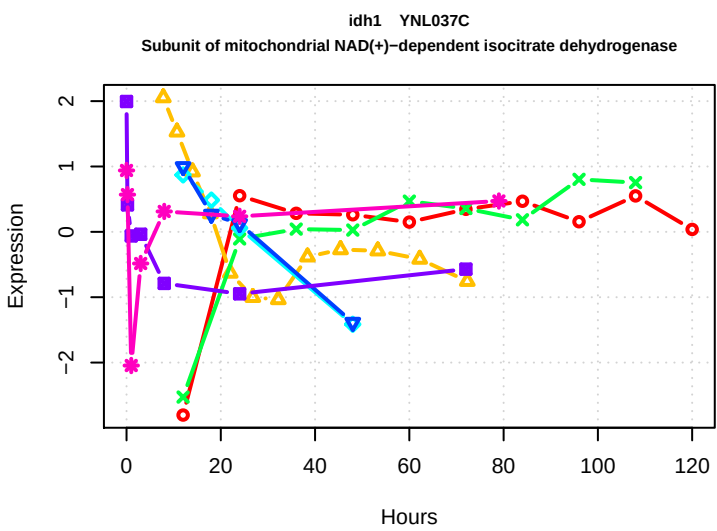
TCA cycle, aerobic respiration



TCA cycle, aerobic respiration

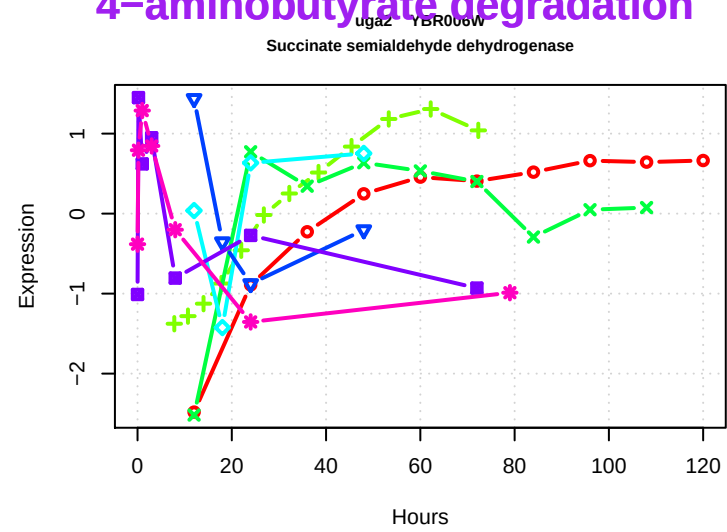
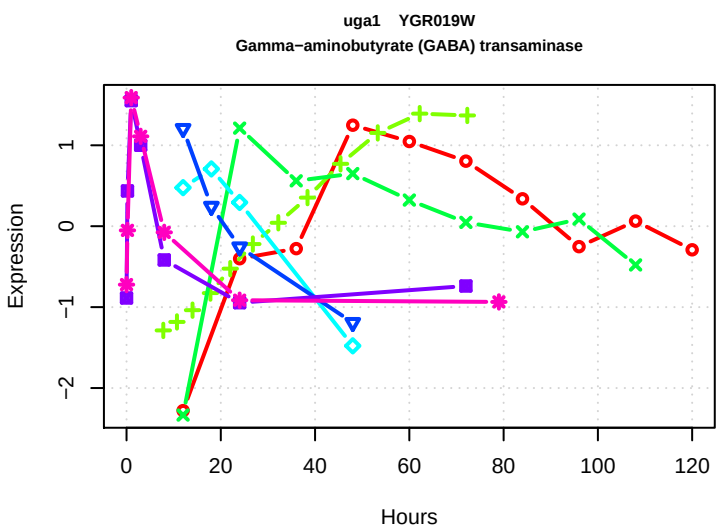


TCA cycle, aerobic respiration



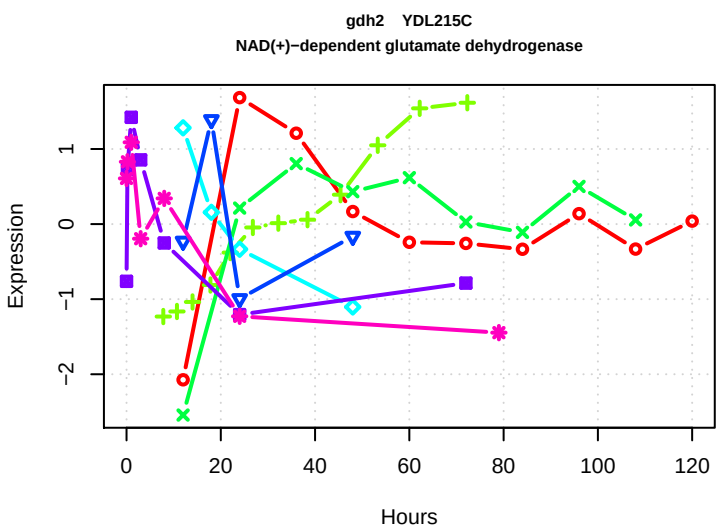
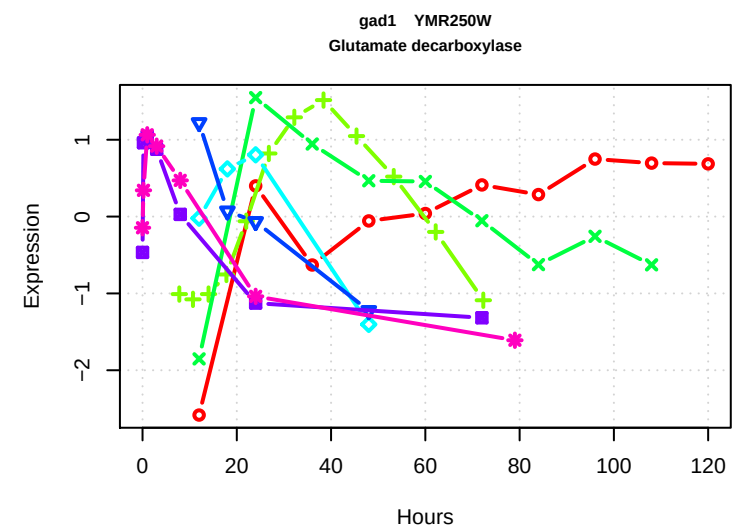
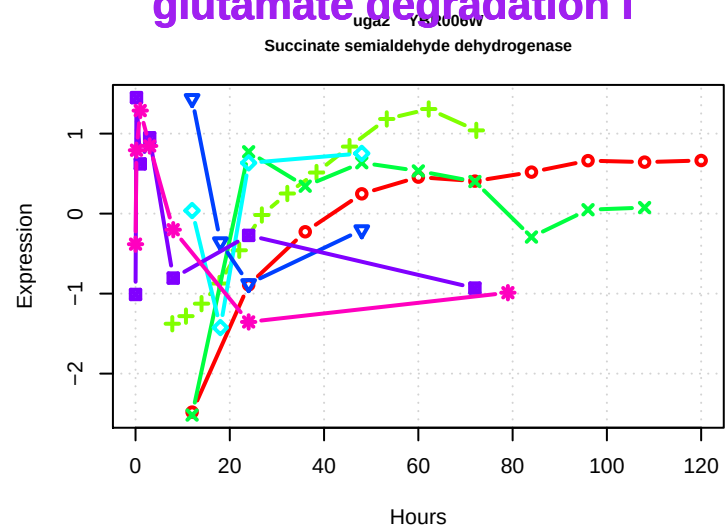
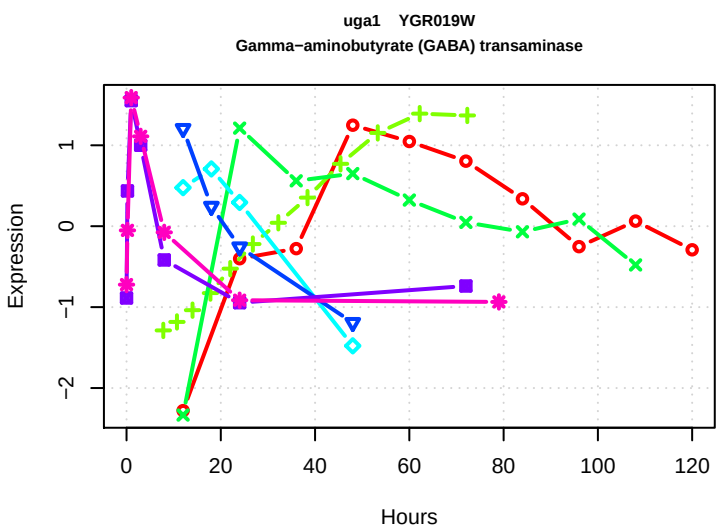
4-aminobutyrate degradation

4-aminobutyrate degradation

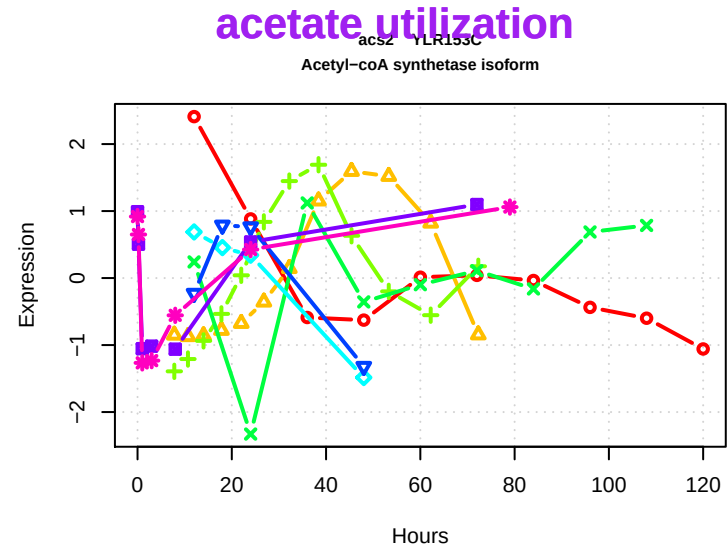
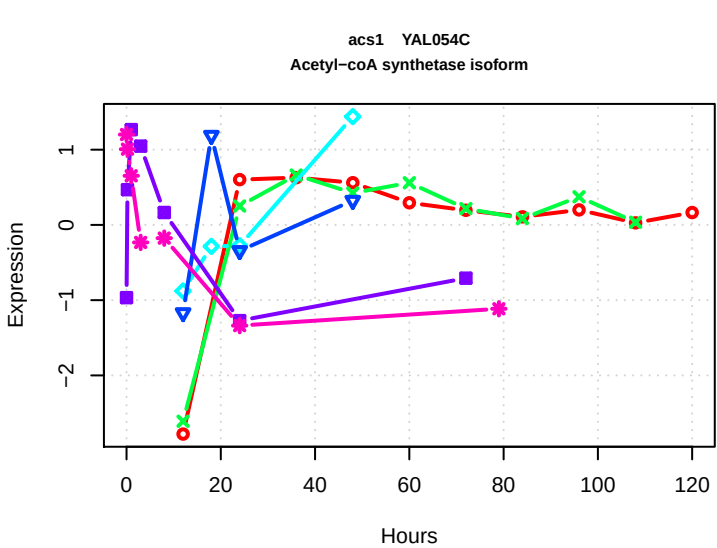


glutamate degradation I

glutamate degradation I

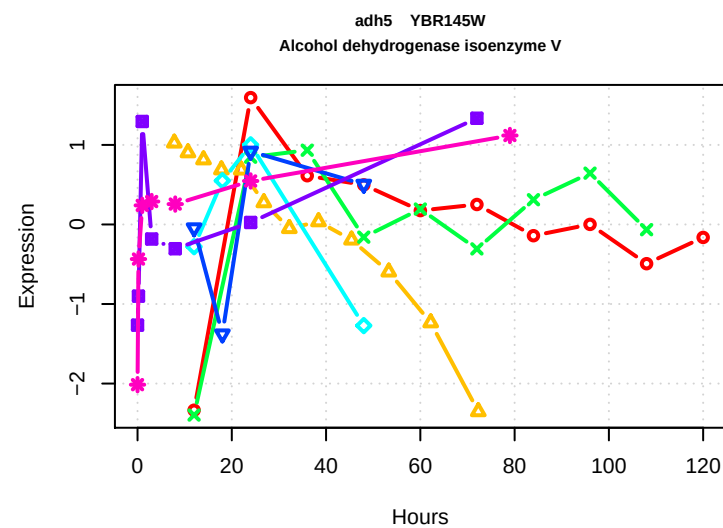
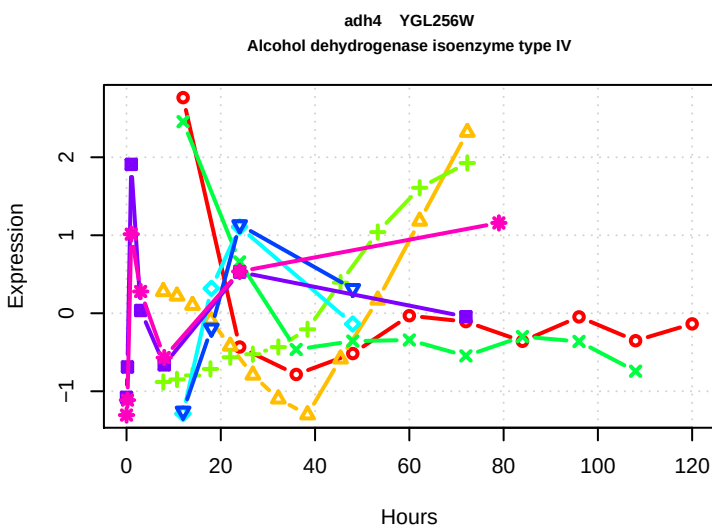
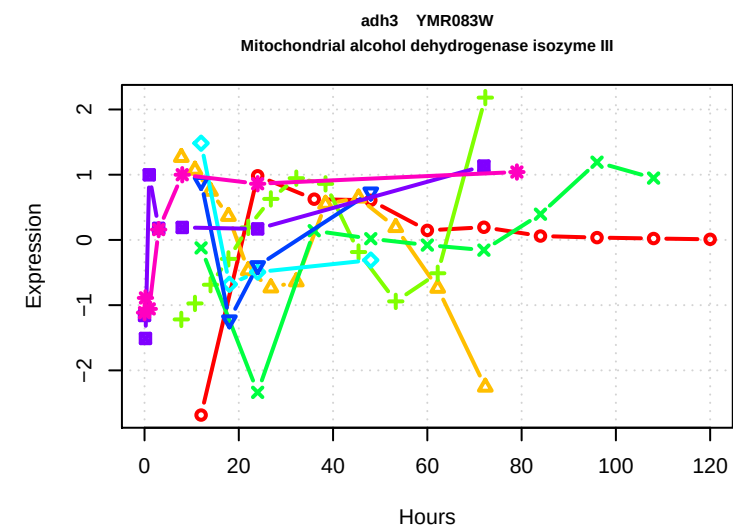
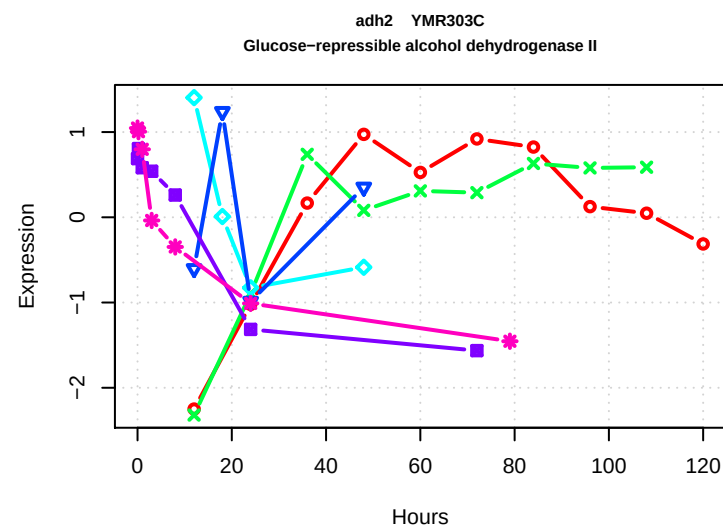
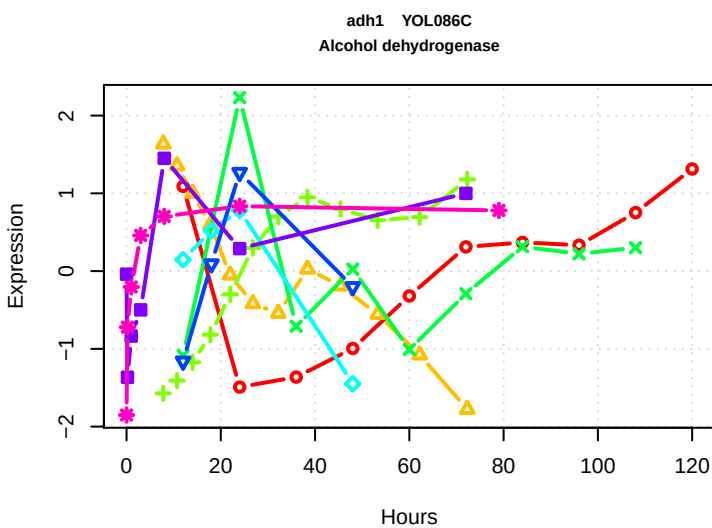
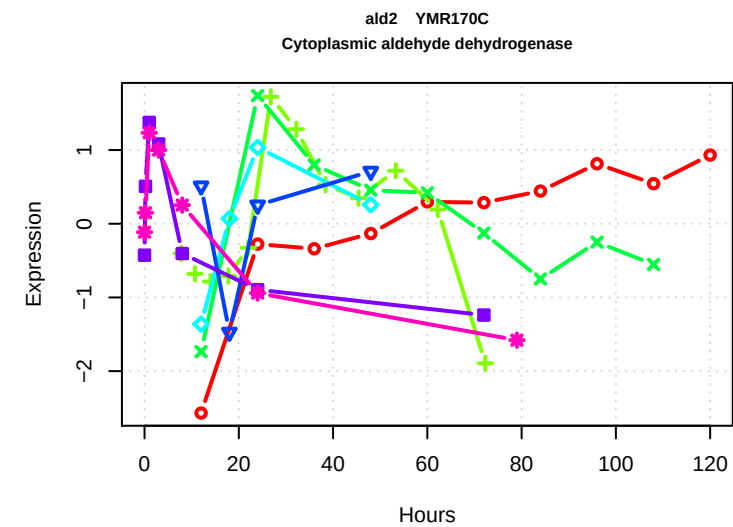
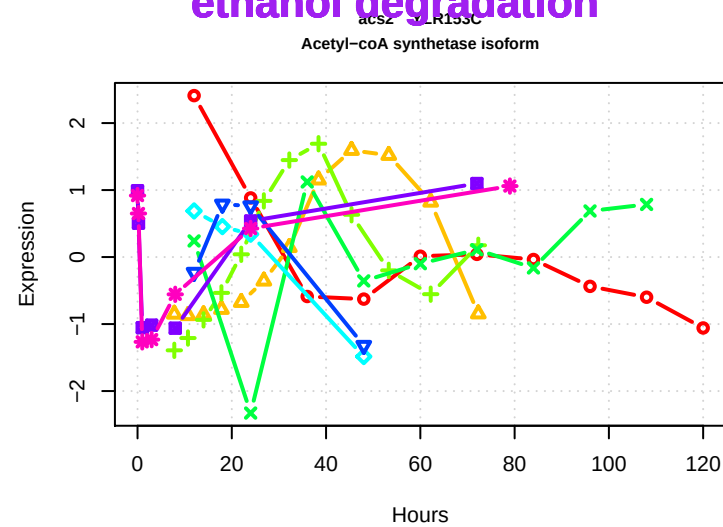
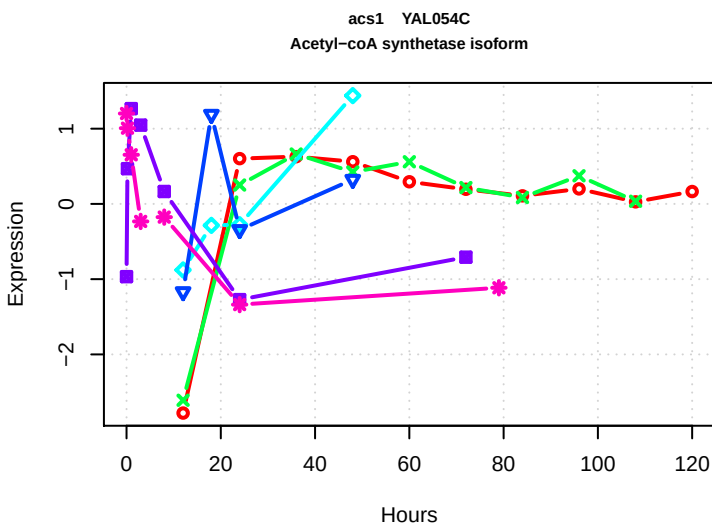


acetate utilization



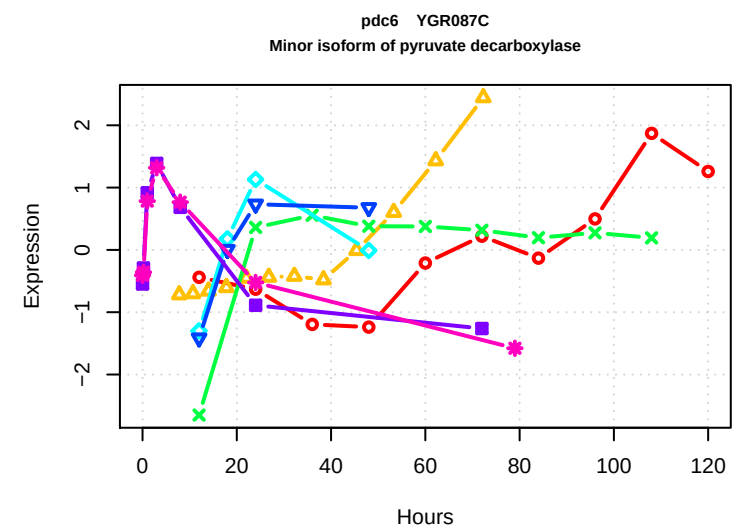
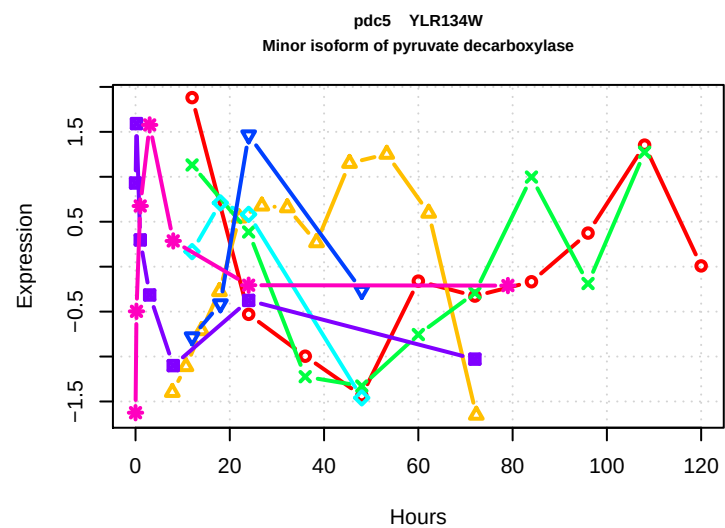
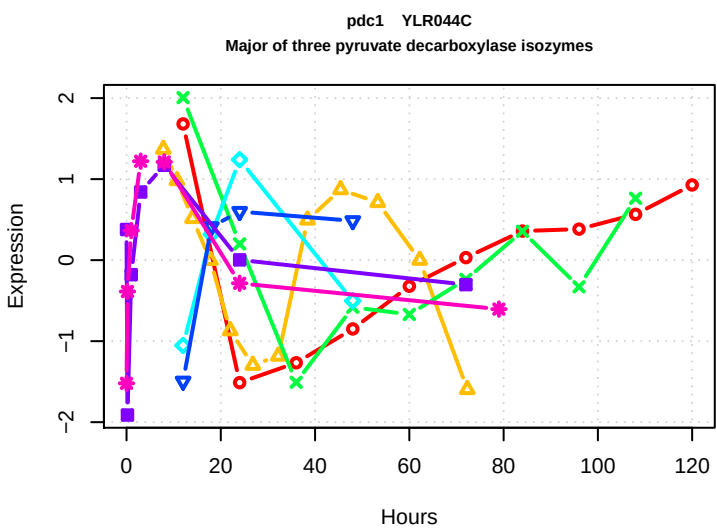
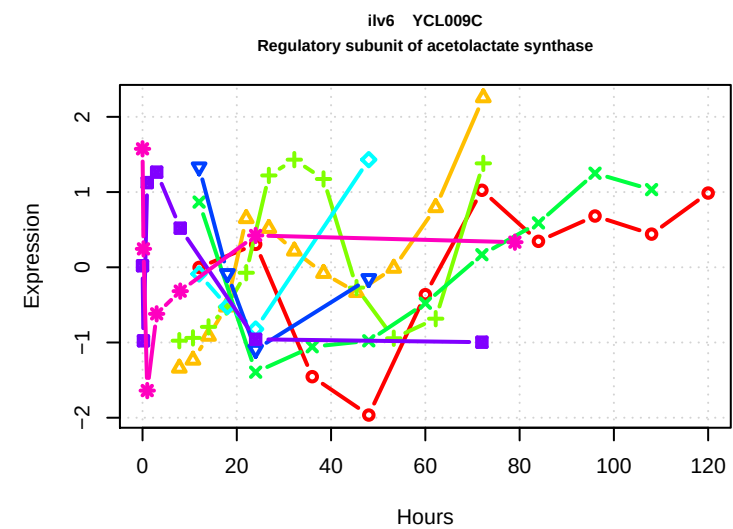
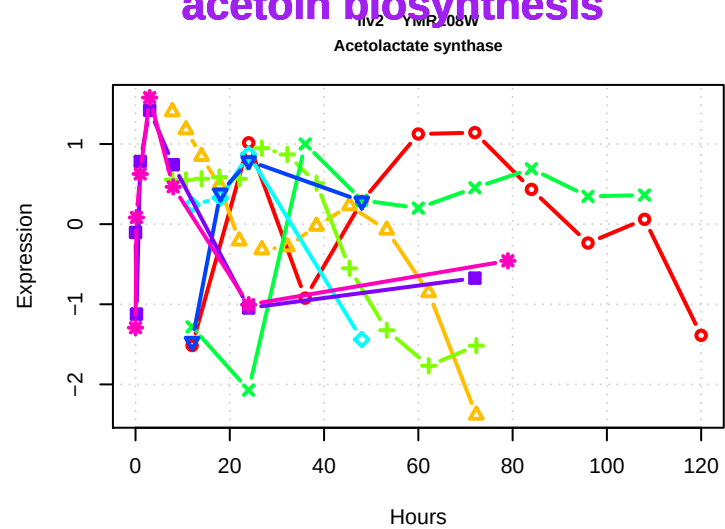
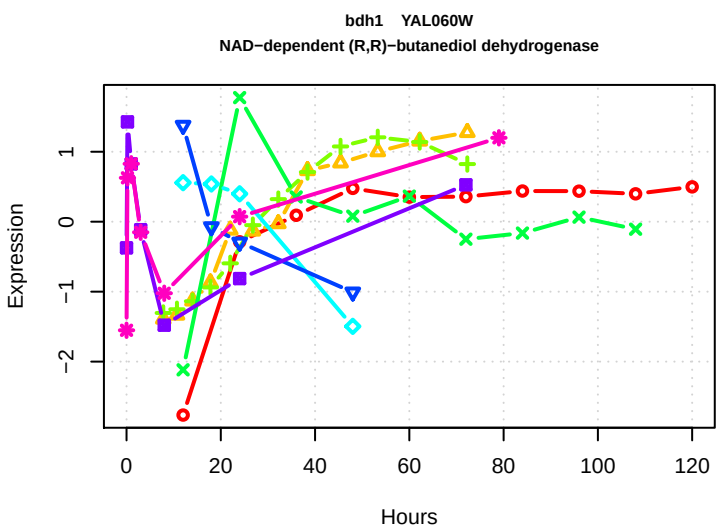
ethanol degradation

ethanol degradation



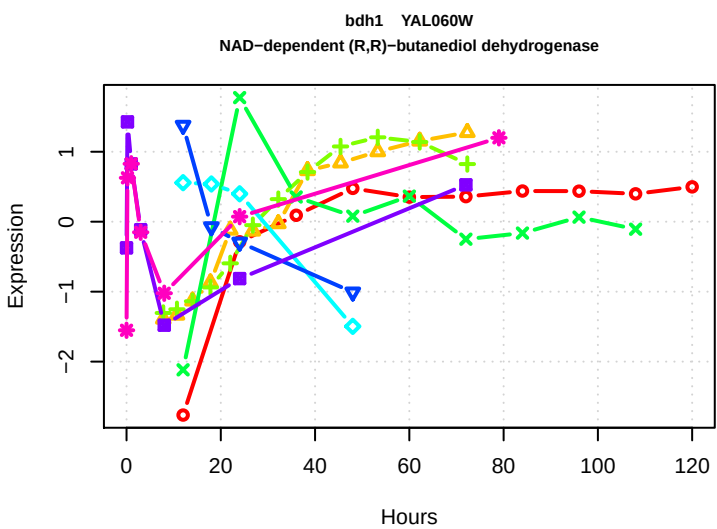
acetoin biosynthesis

acetoin biosynthesis



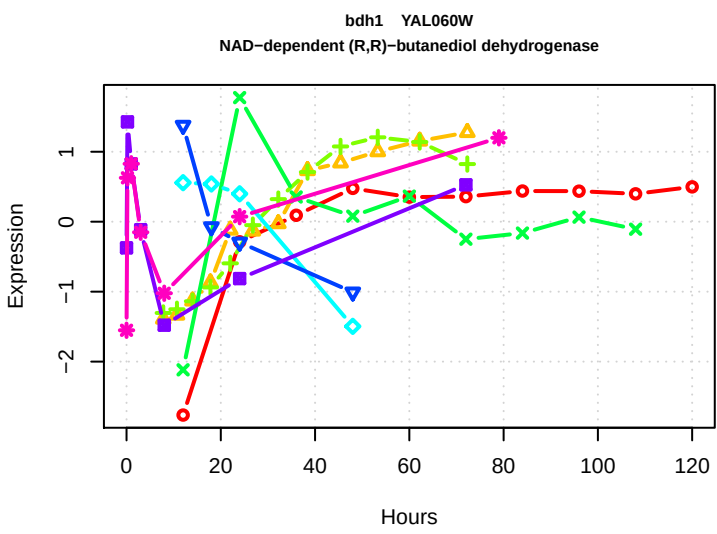
butanediol biosynthesis

butanediol biosynthesis



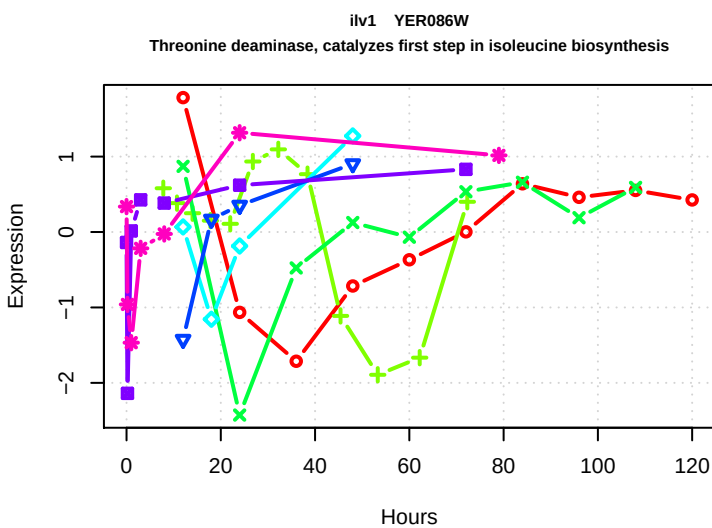
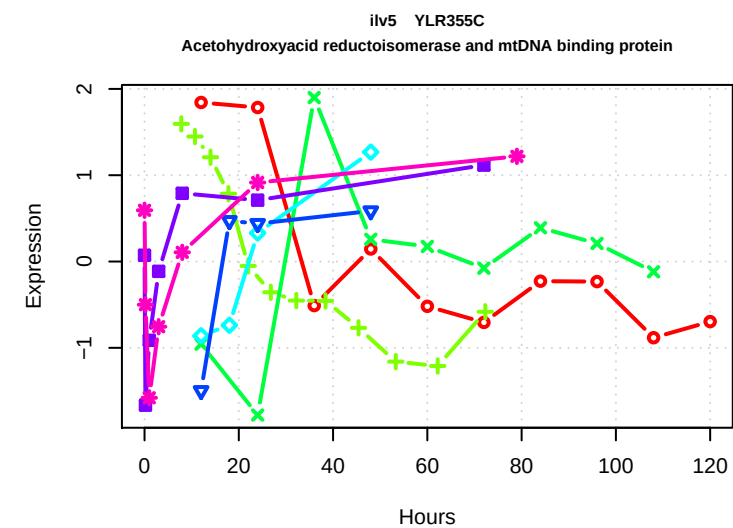
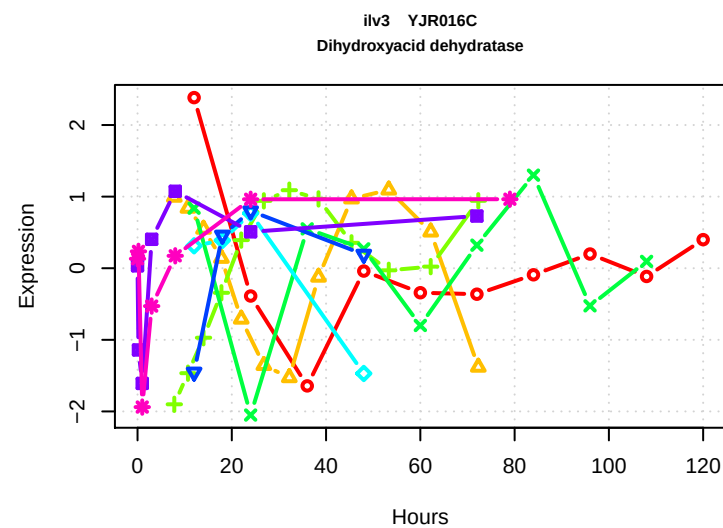
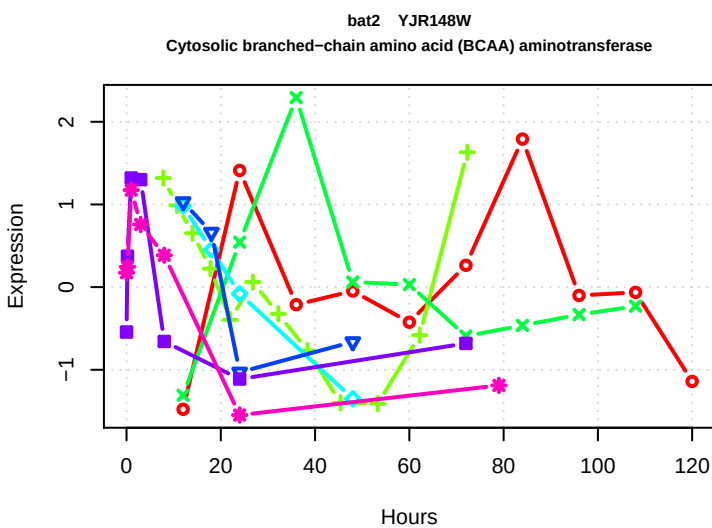
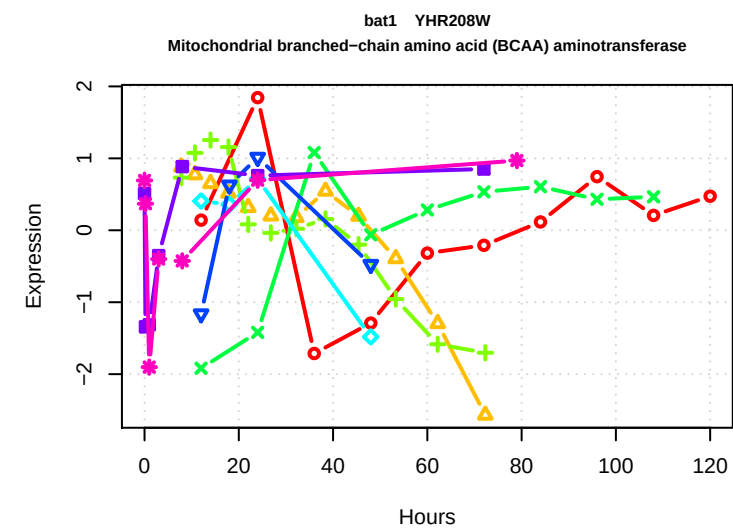
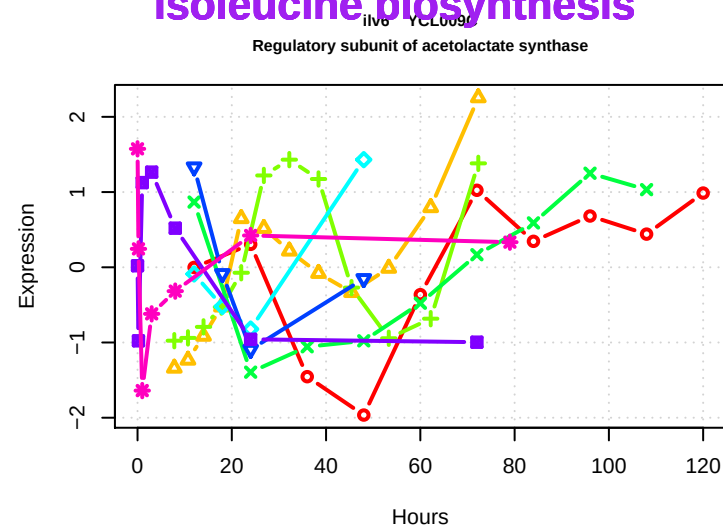
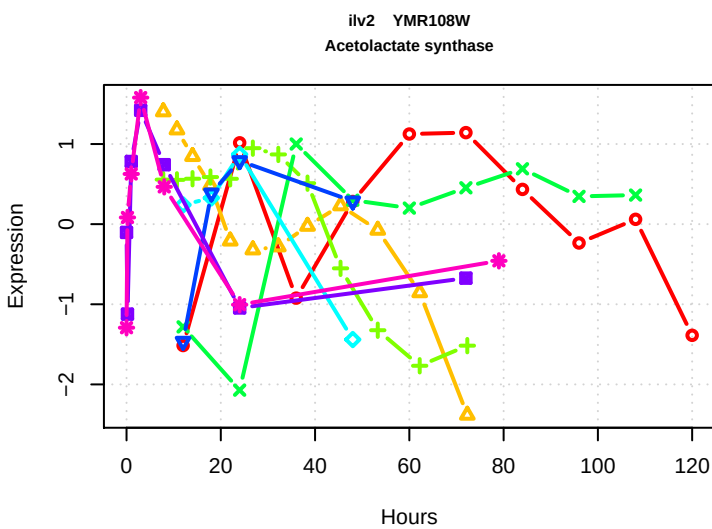
butanediol degradation

butanediol degradation



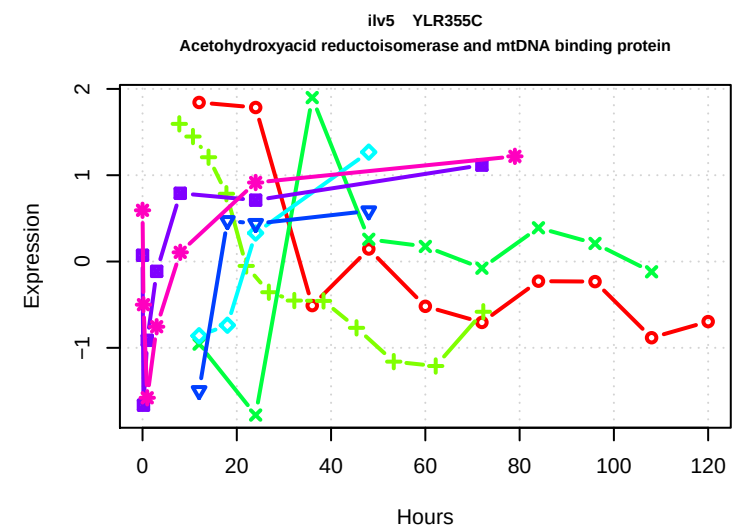
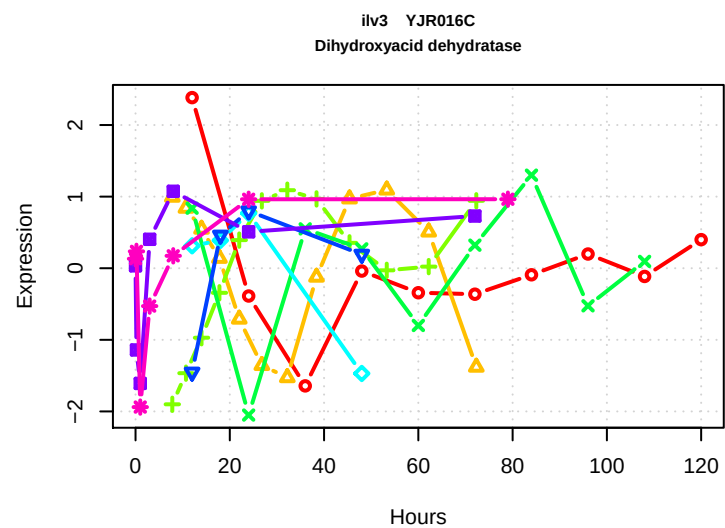
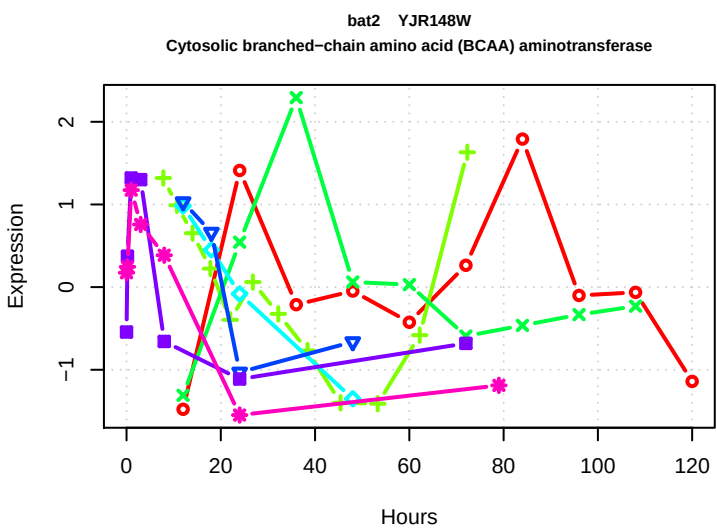
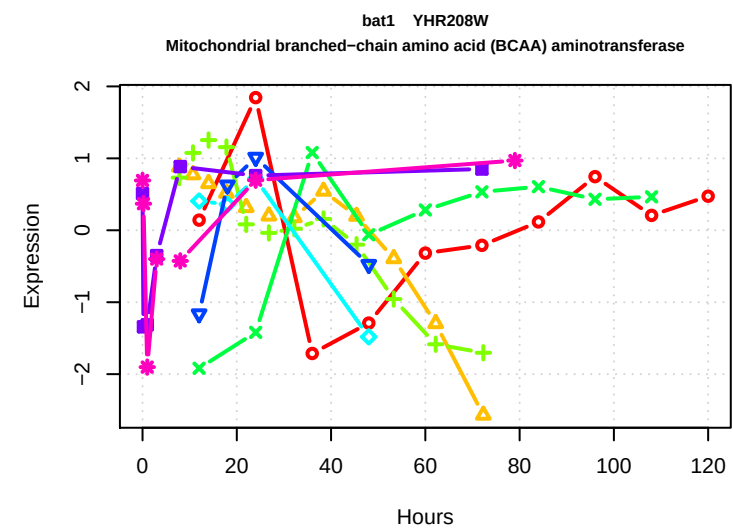
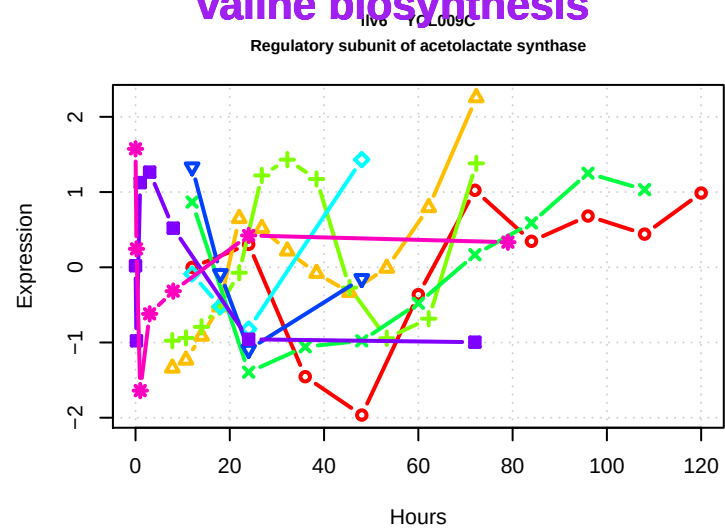
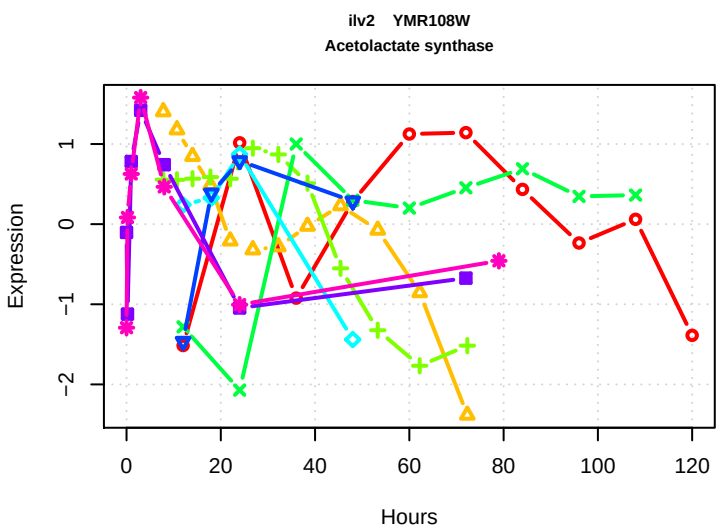
isoleucine biosynthesis

isoleucine biosynthesis



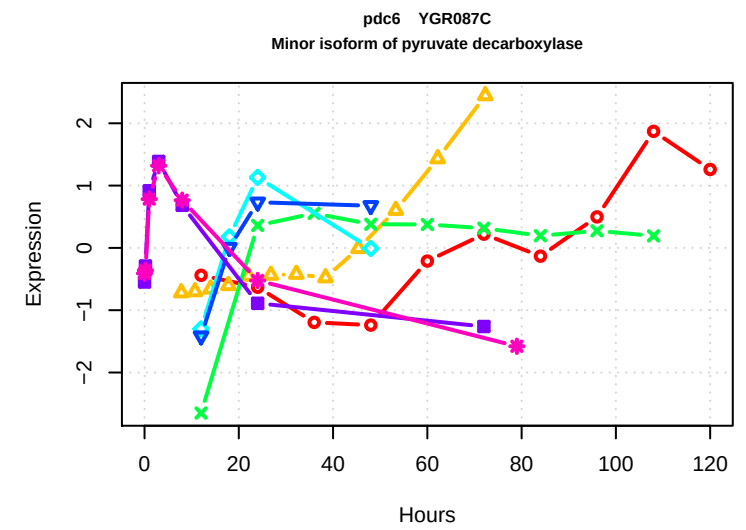
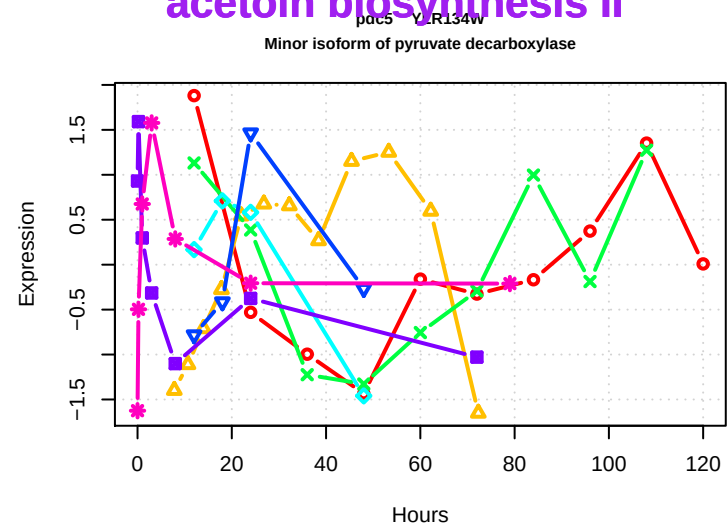
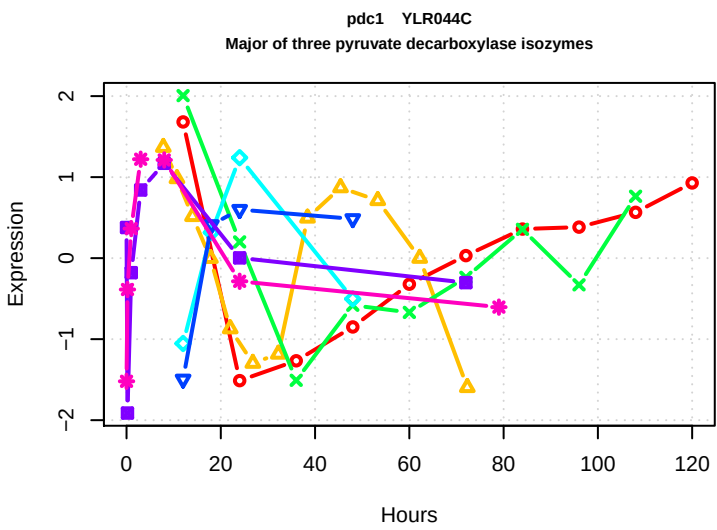
valine biosynthesis

valine biosynthesis



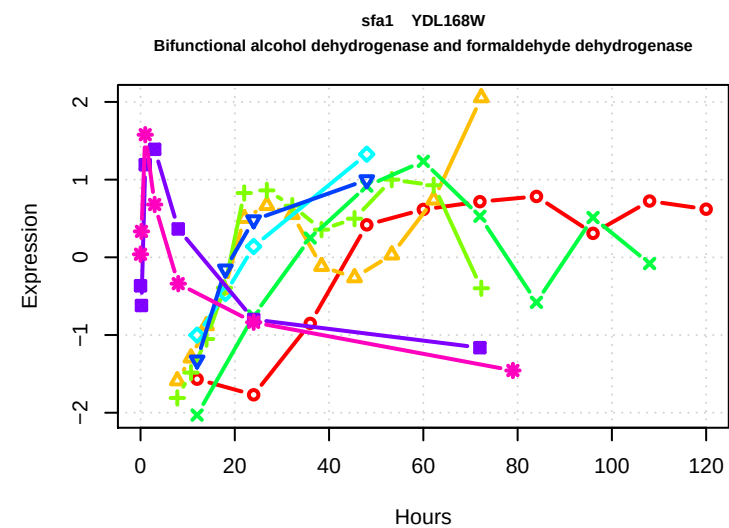
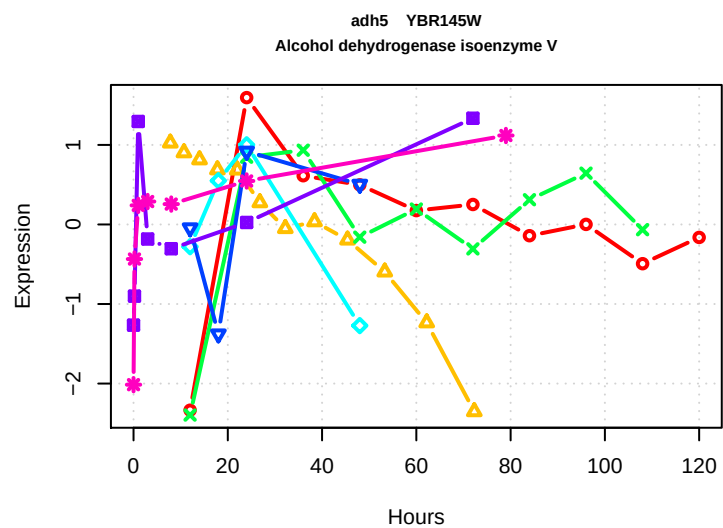
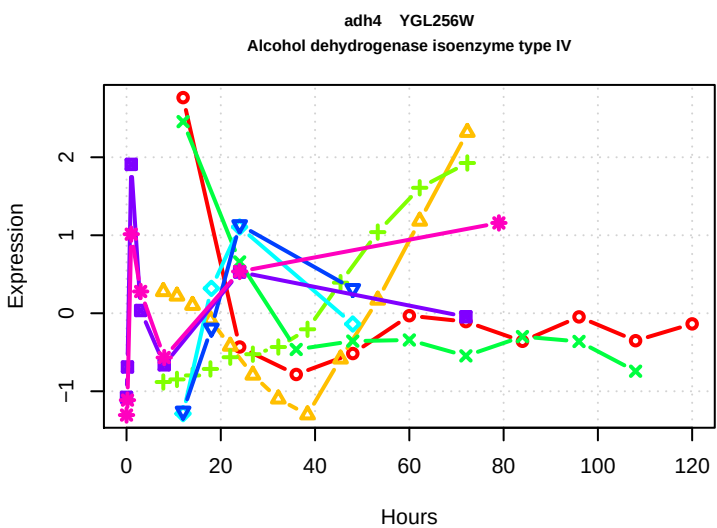
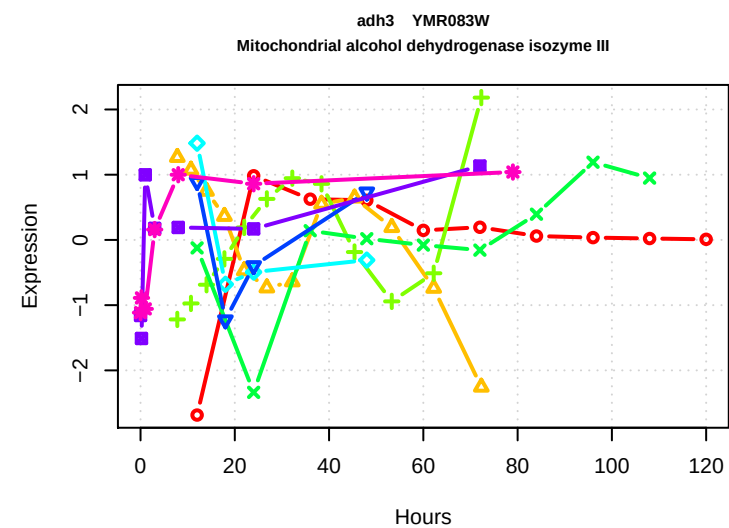
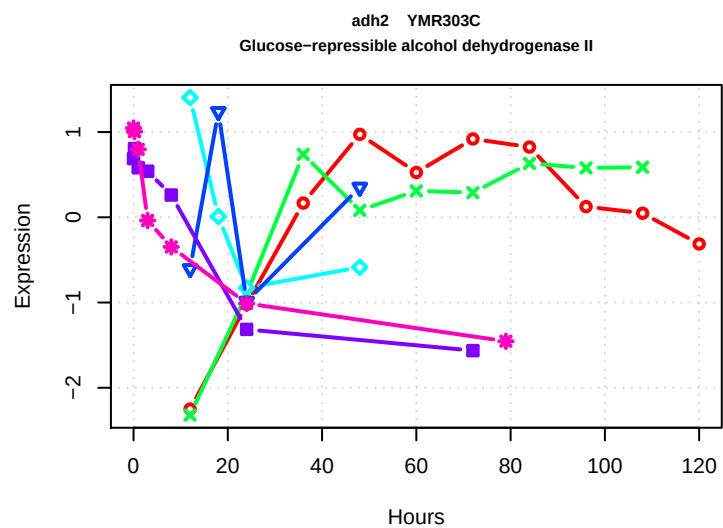
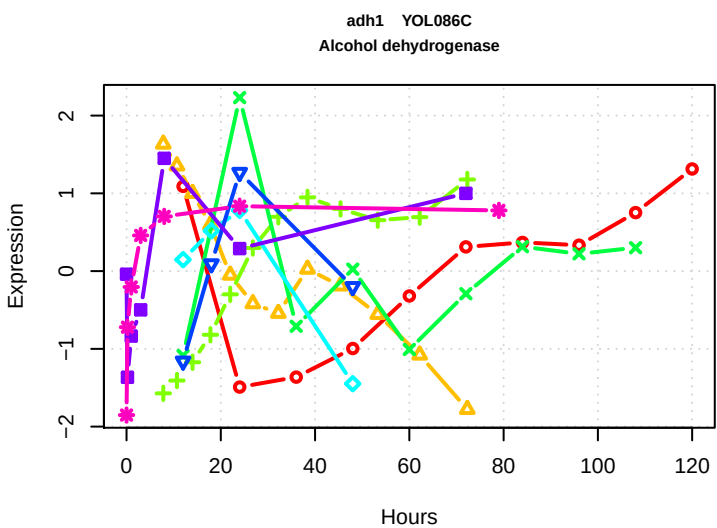
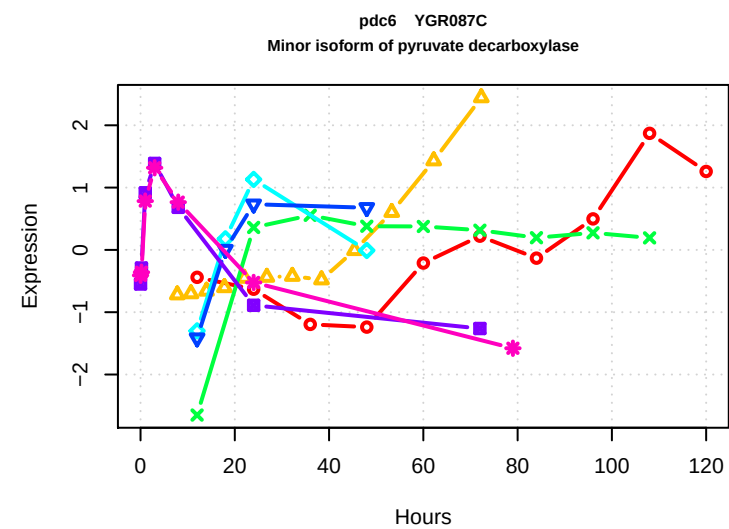
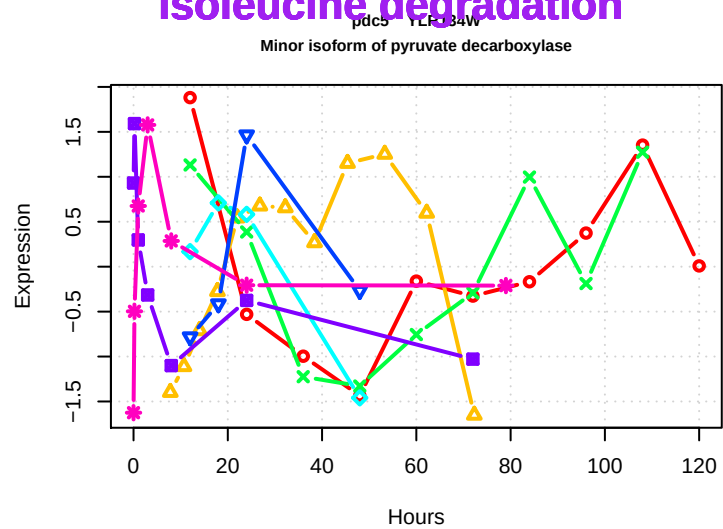
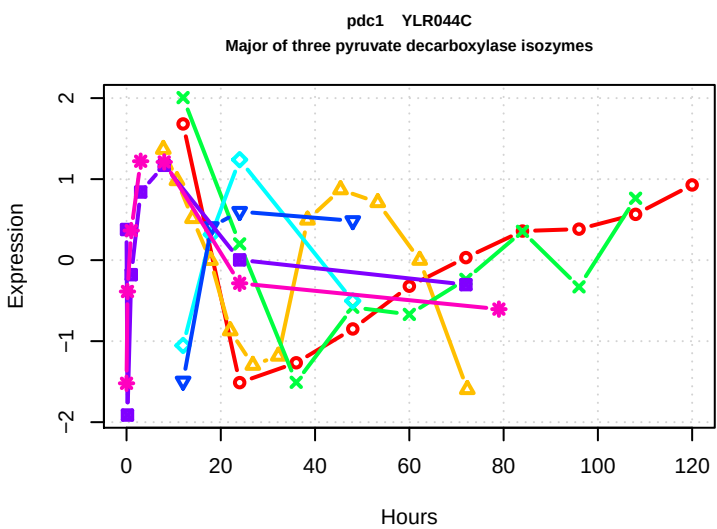
acetoin biosynthesis II

acetoin biosynthesis II

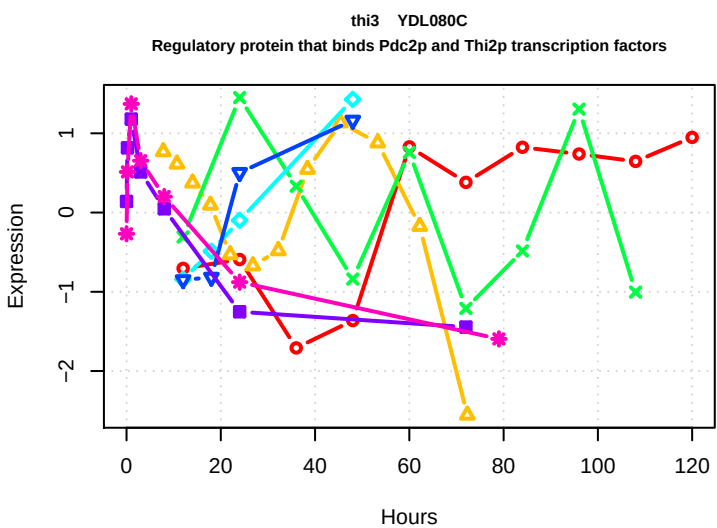
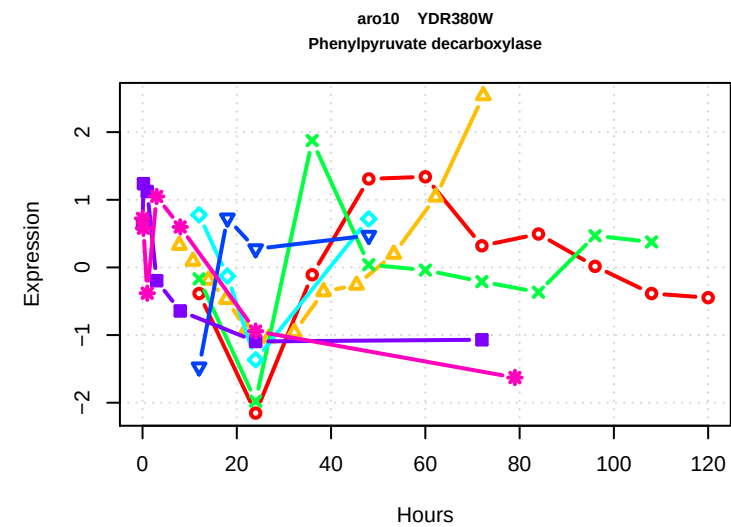
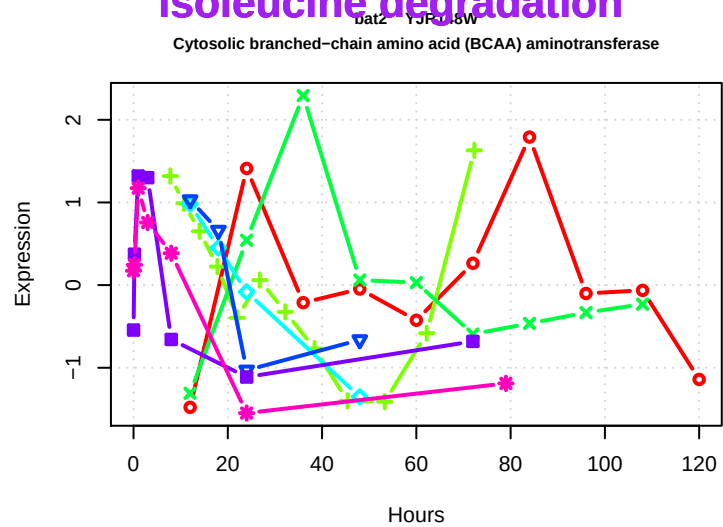
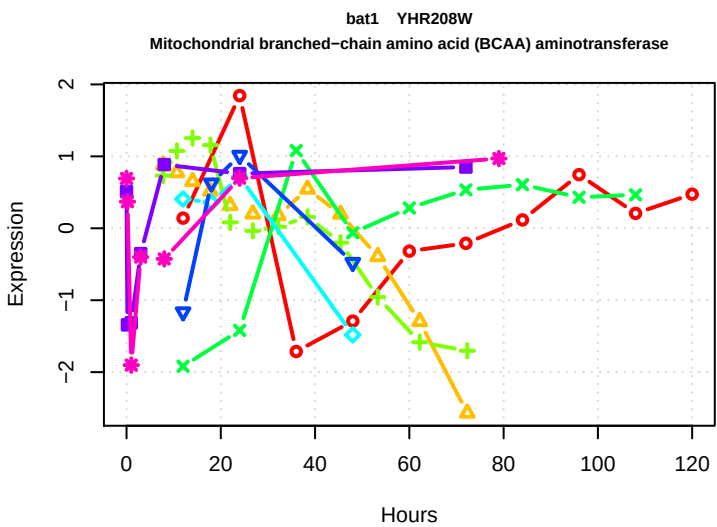


isoleucine degradation

isoleucine degradation

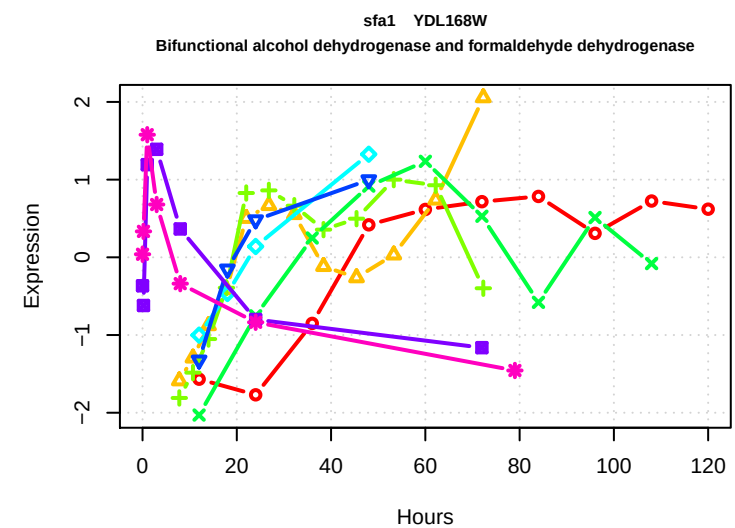
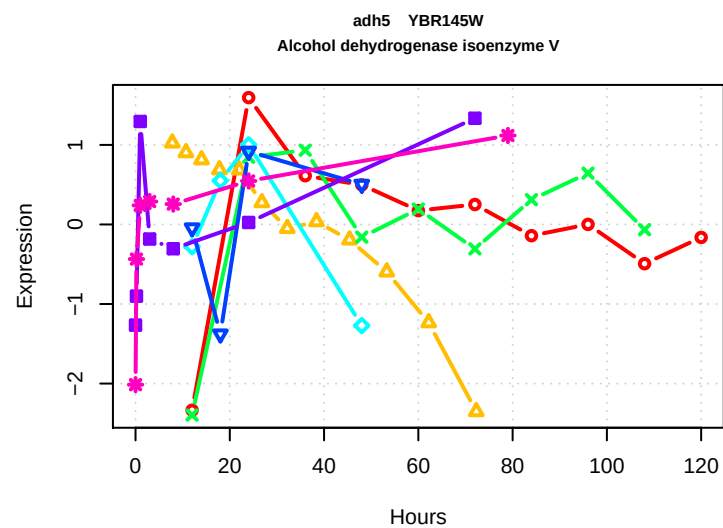
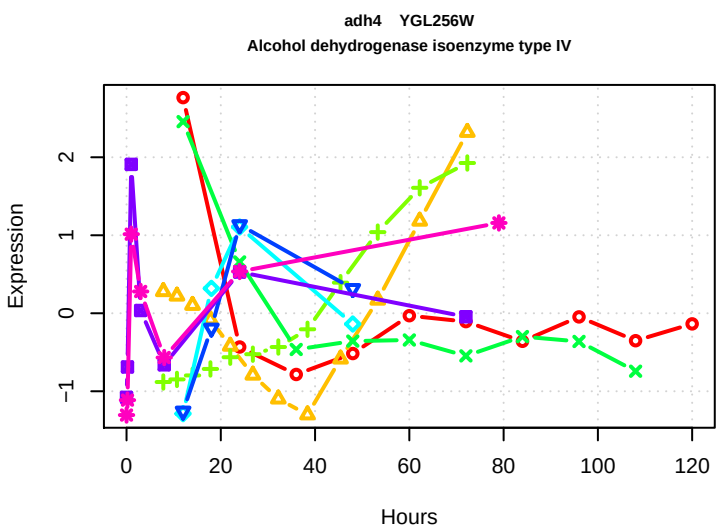
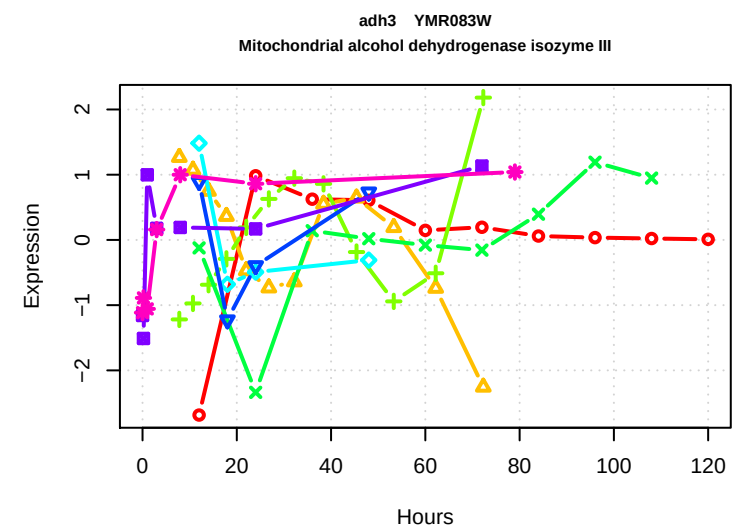
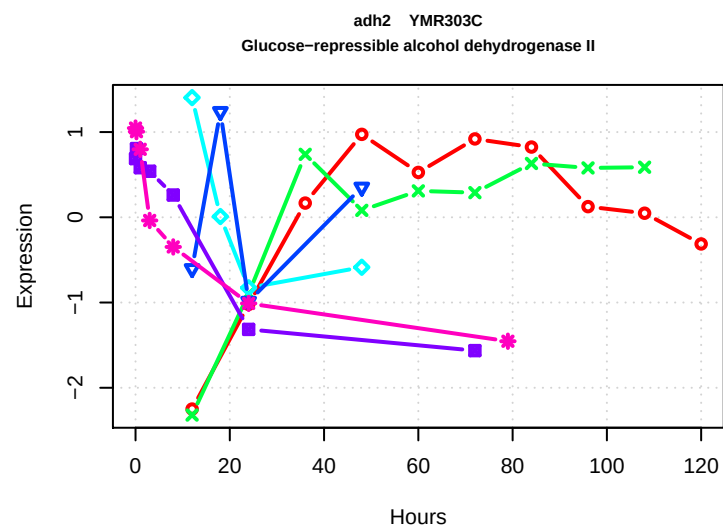
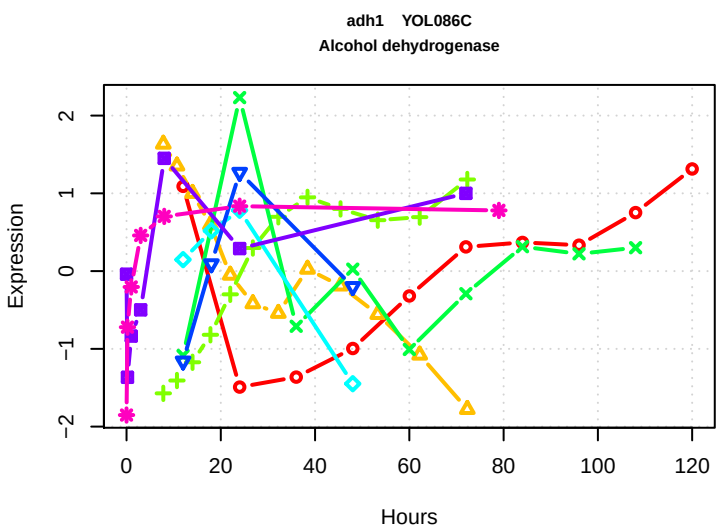
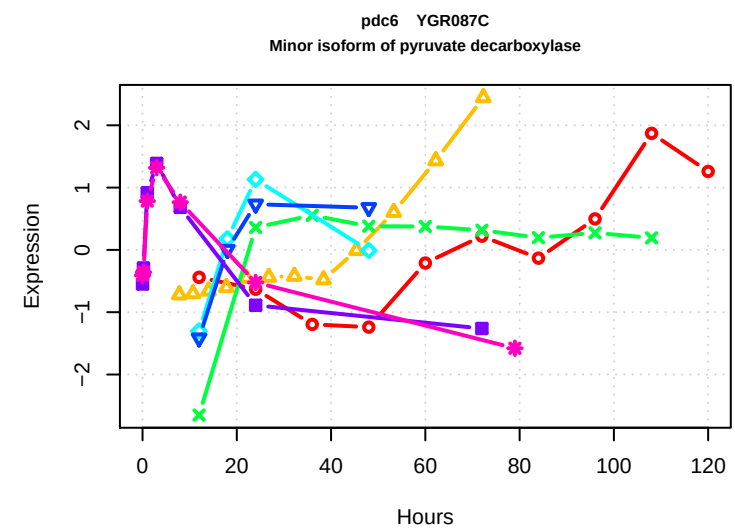
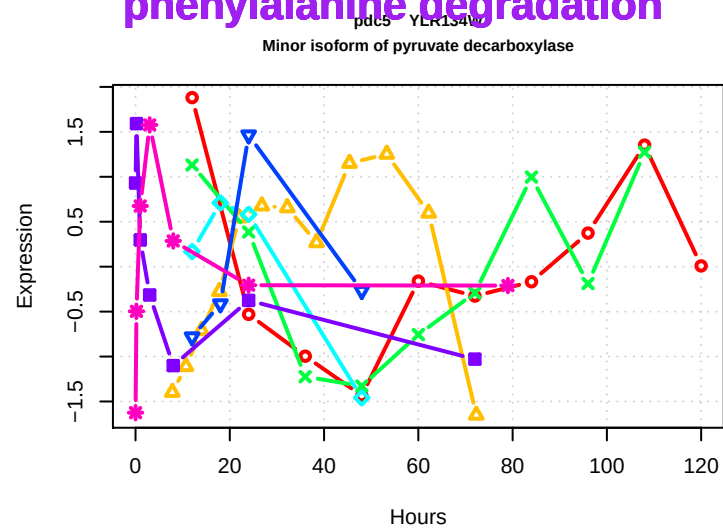
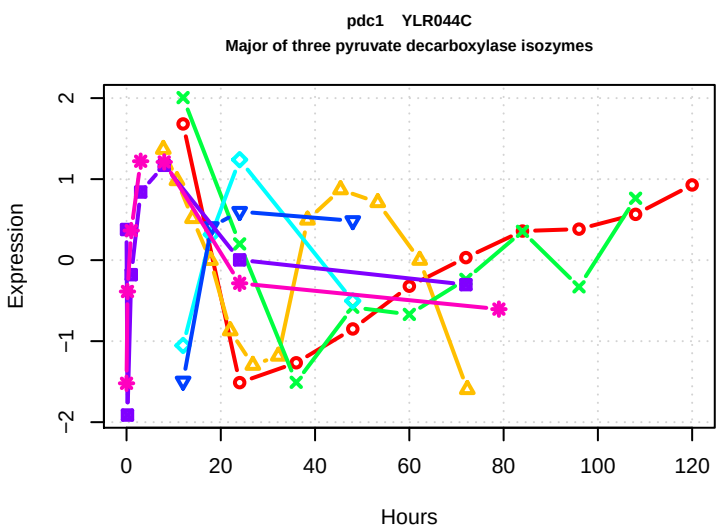


isoleucine degradation

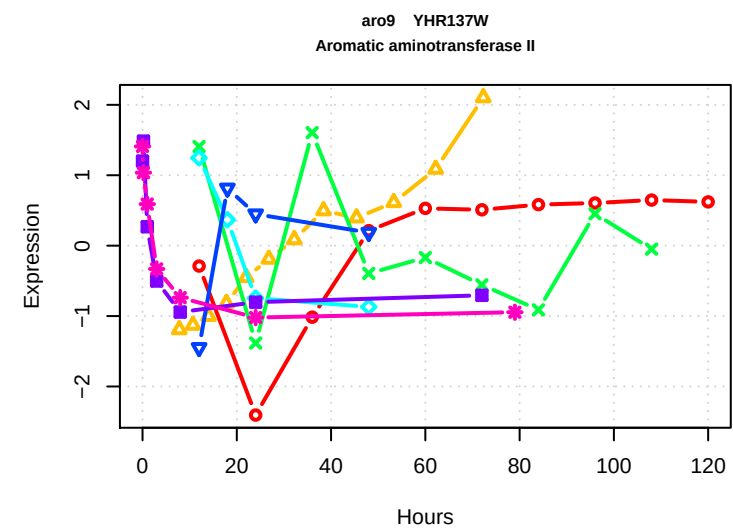
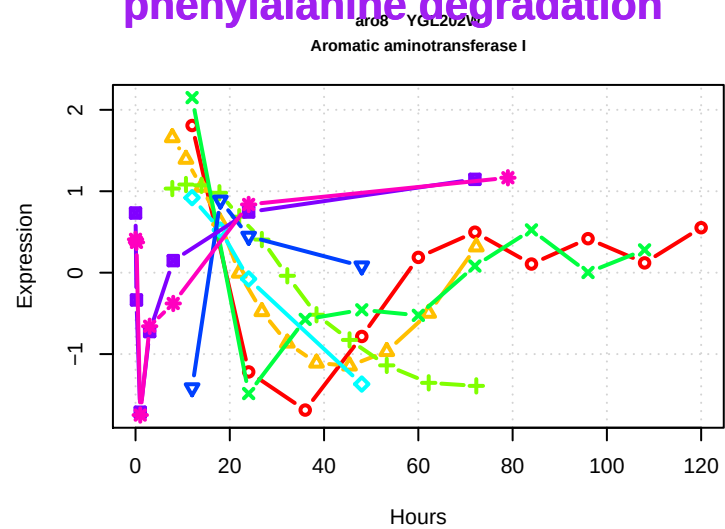
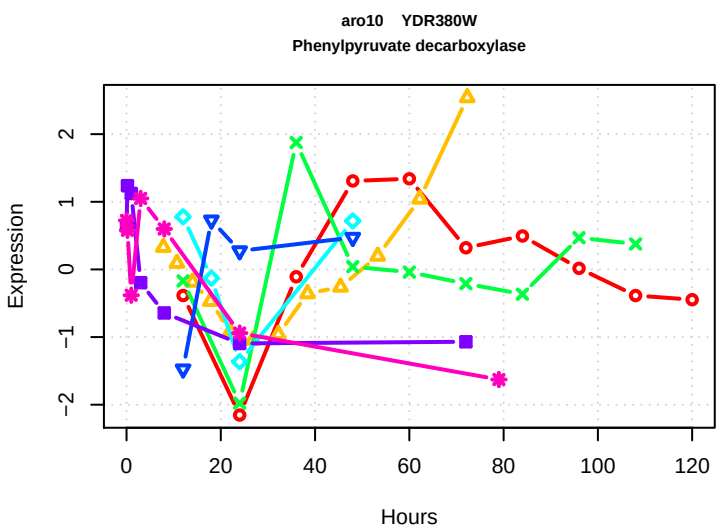


phenylalanine degradation

phenylalanine degradation

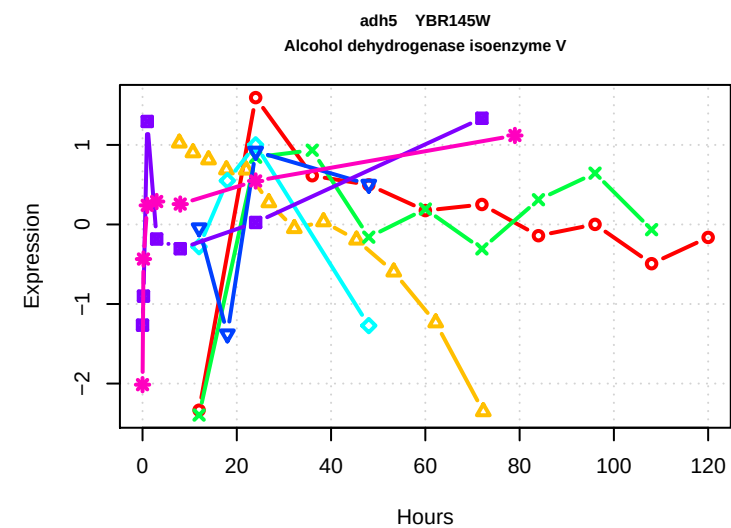
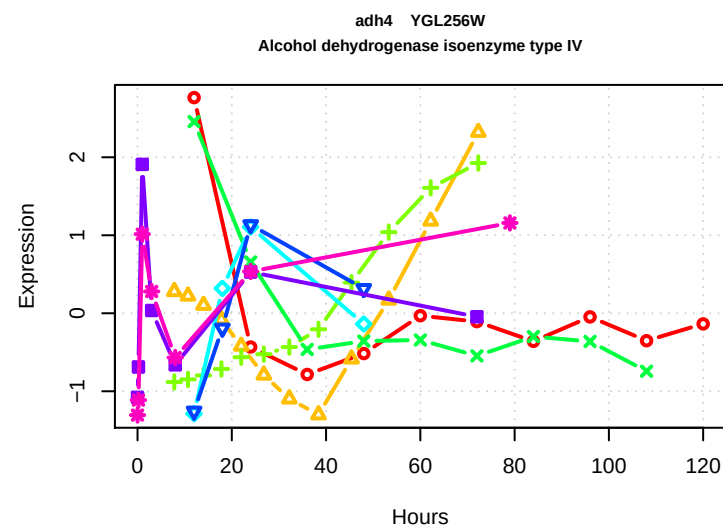
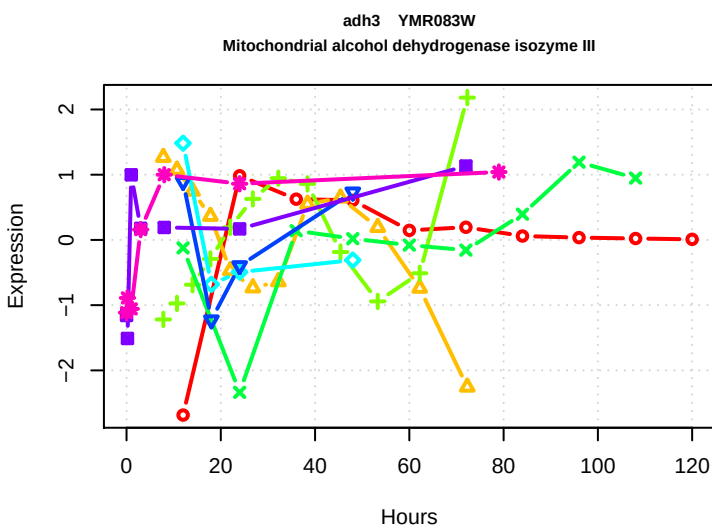
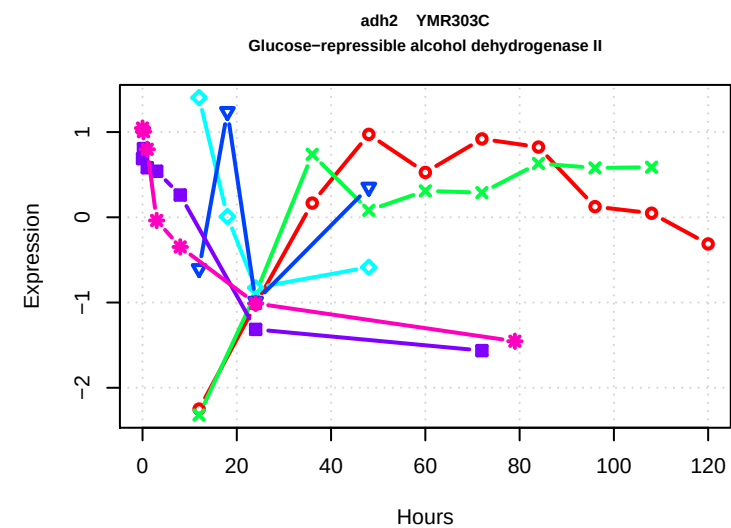
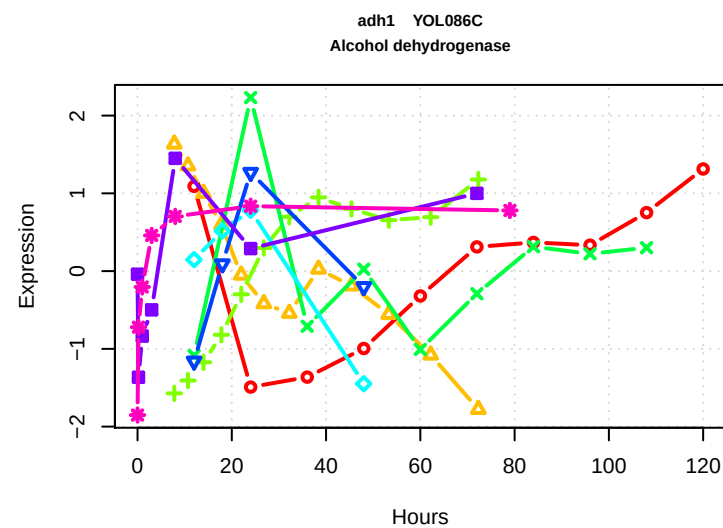
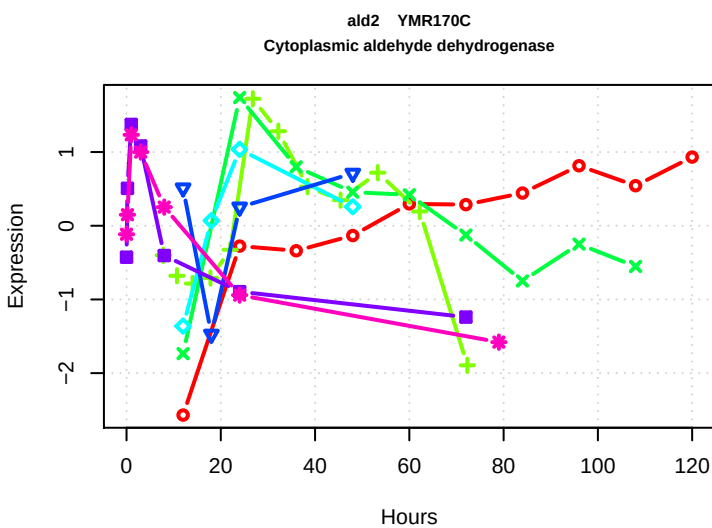
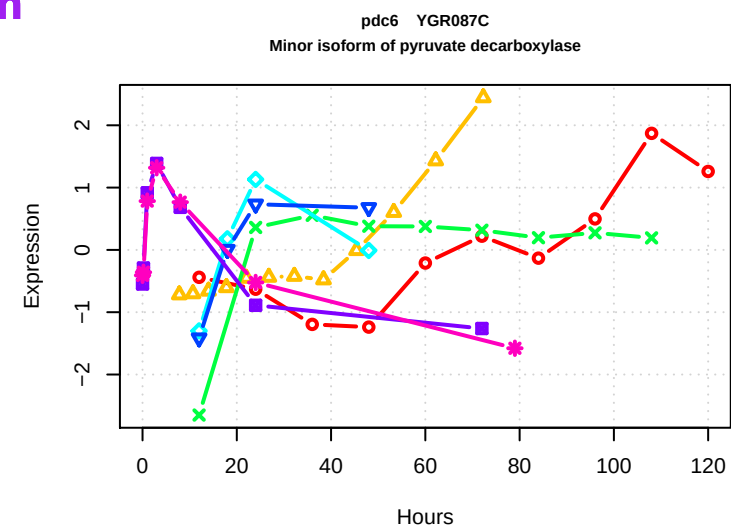
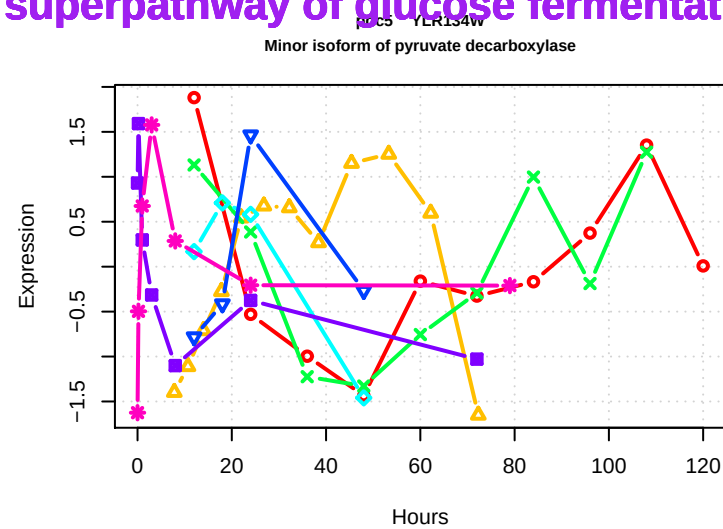
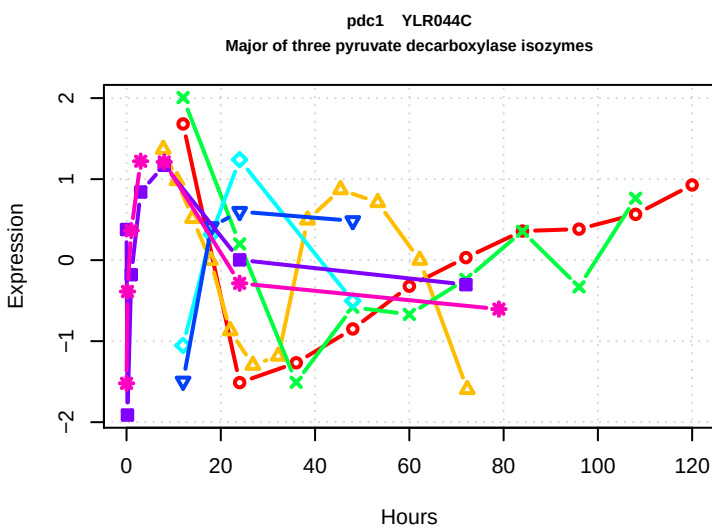


phenylalanine degradation

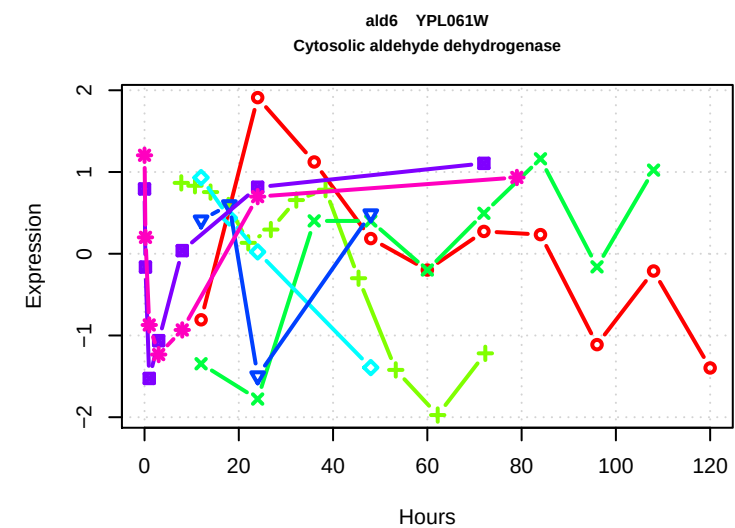
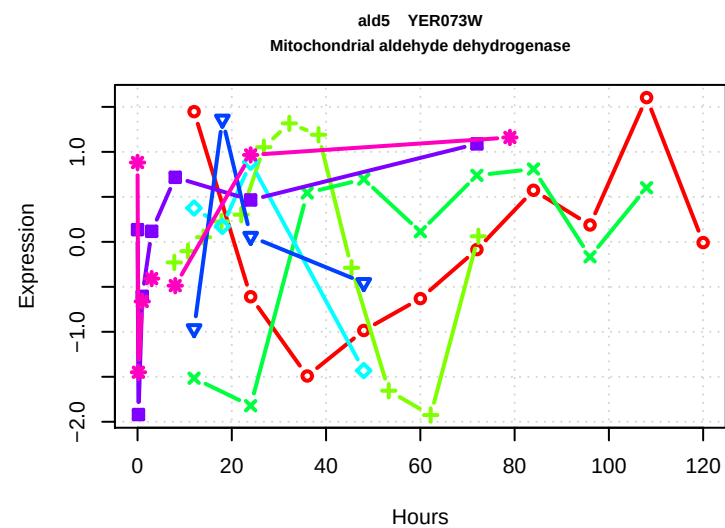
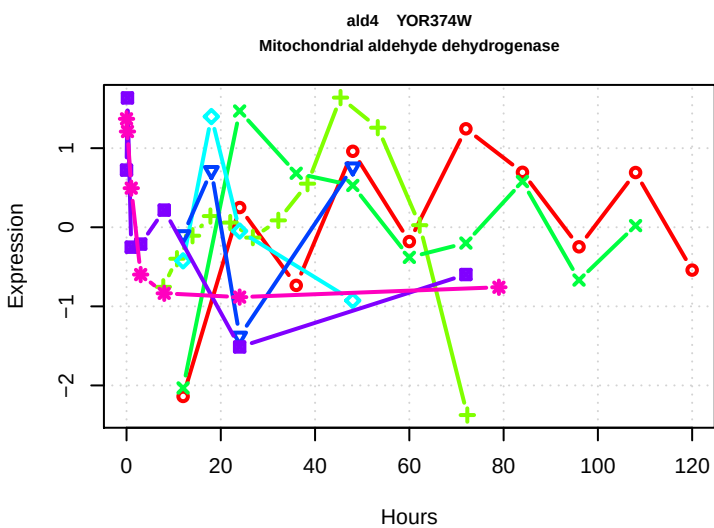
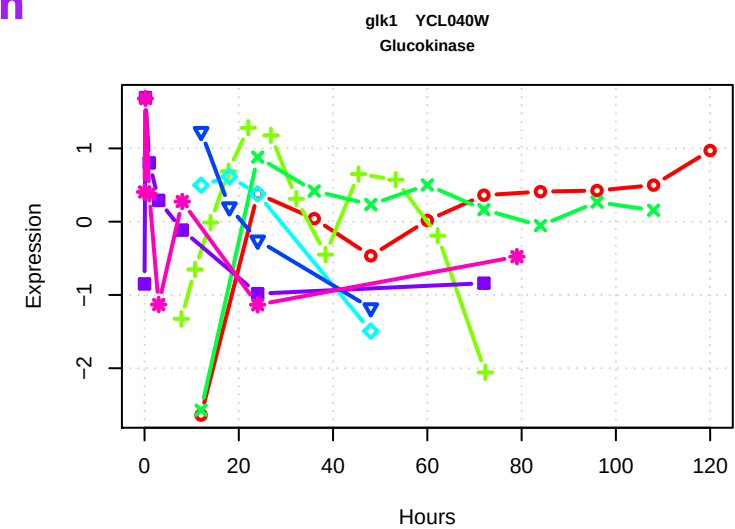
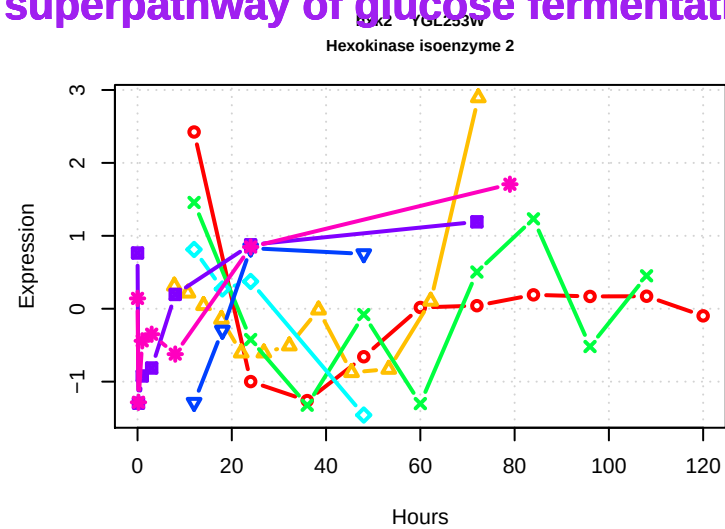
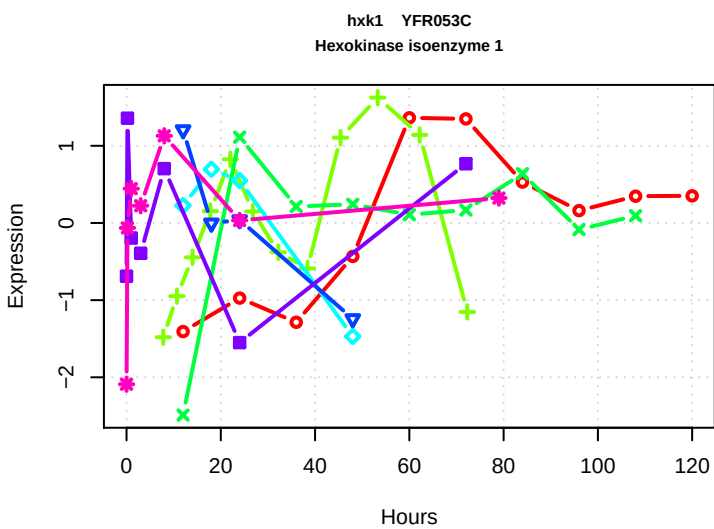


superpathway of glucose fermentation

superpathway of glucose fermentation

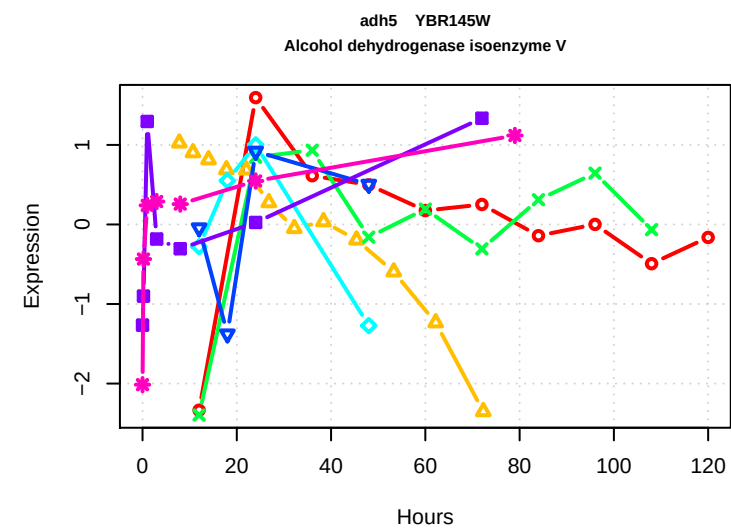
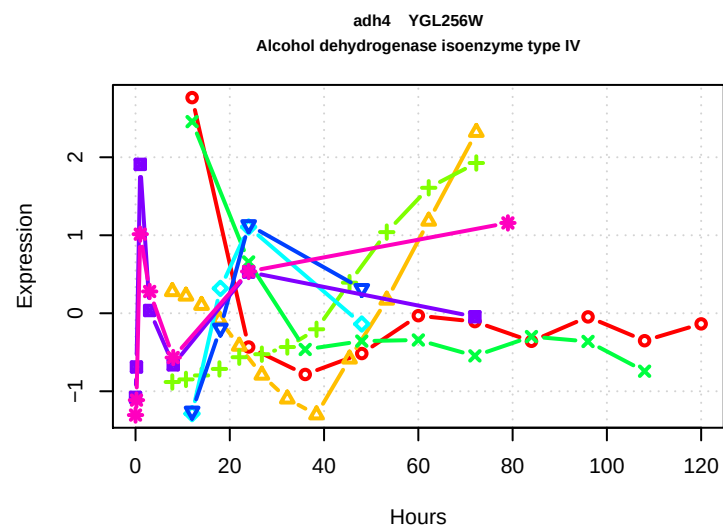
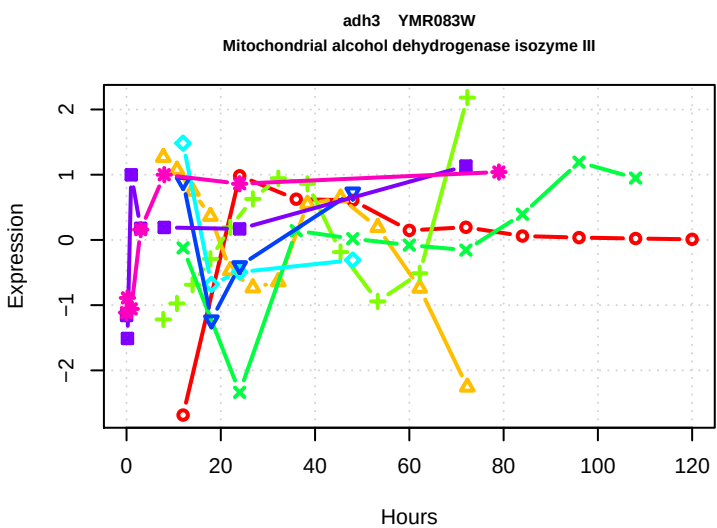
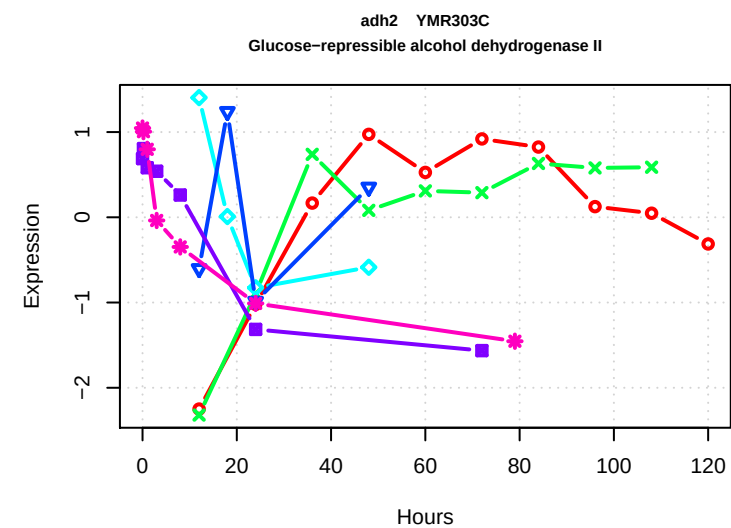
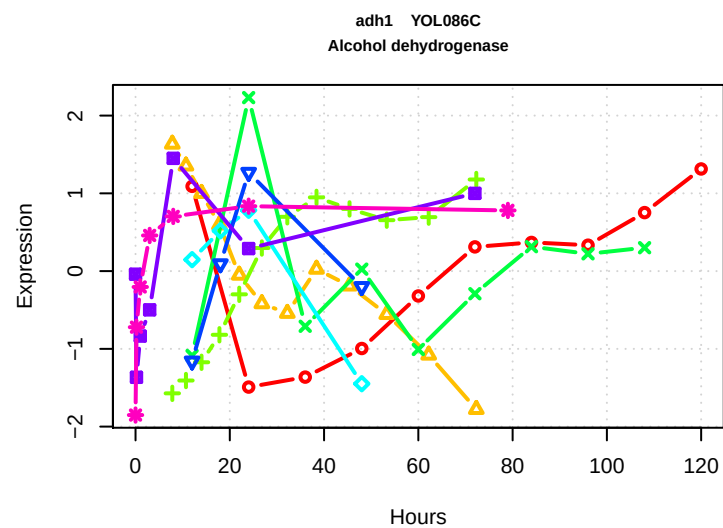
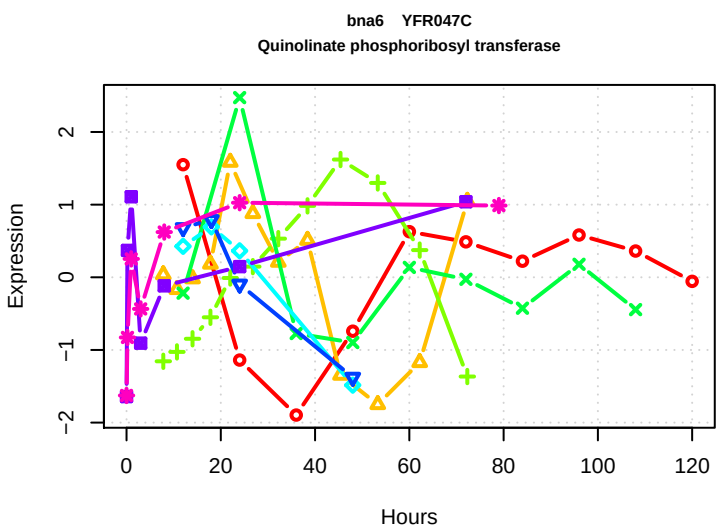
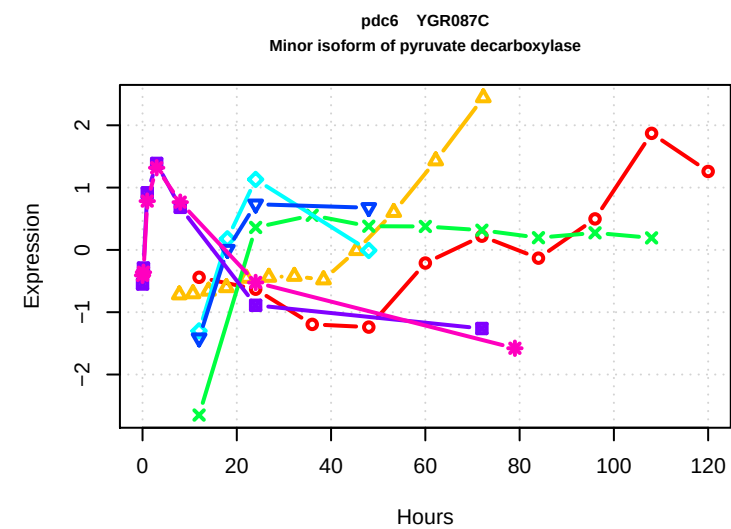
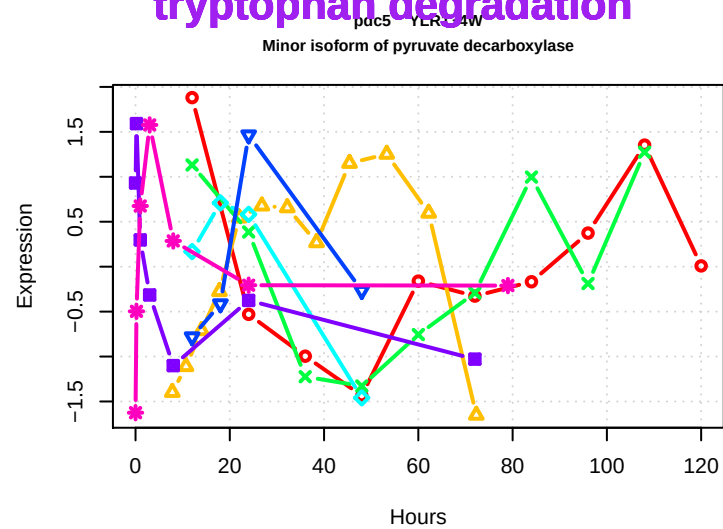
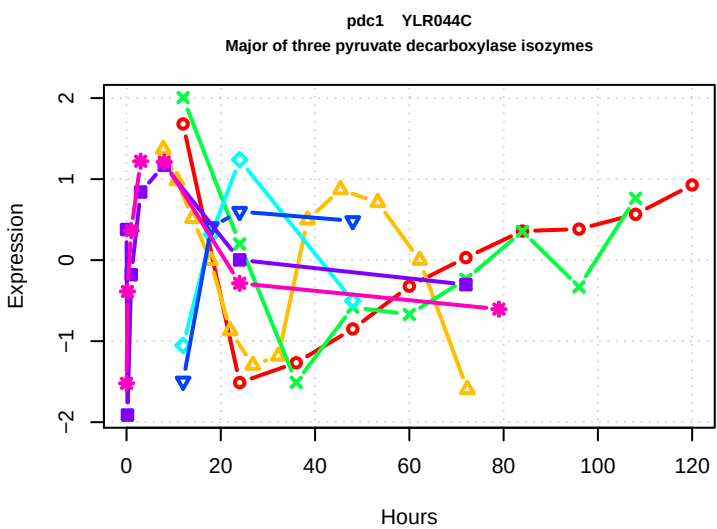


superpathway of glucose fermentation

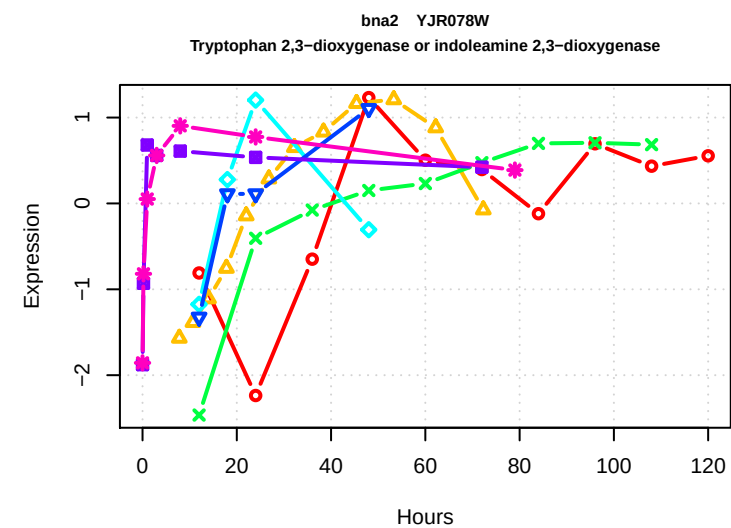
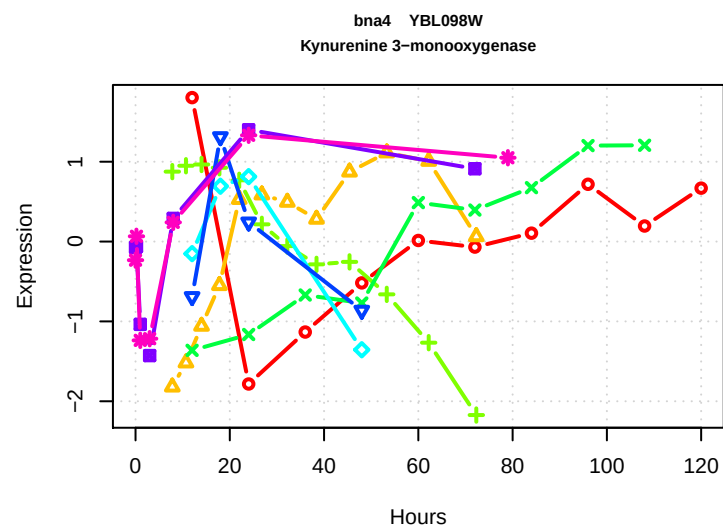
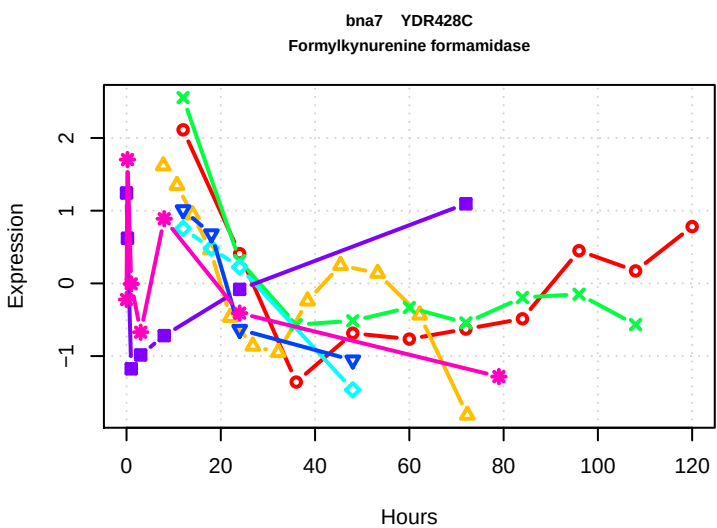
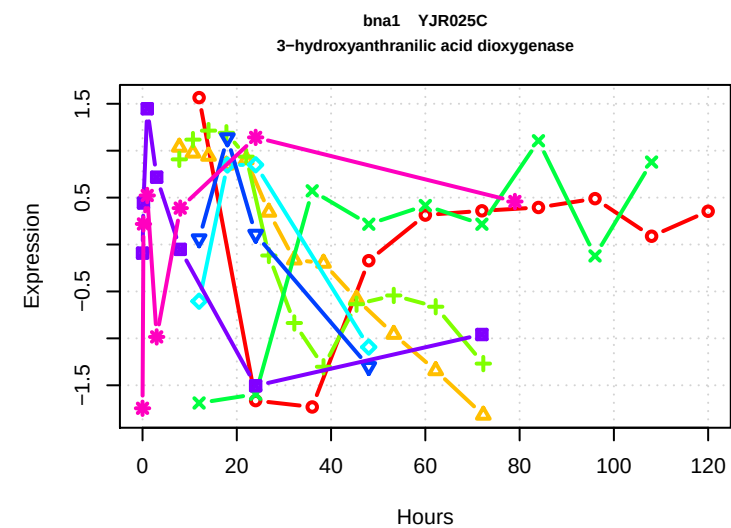
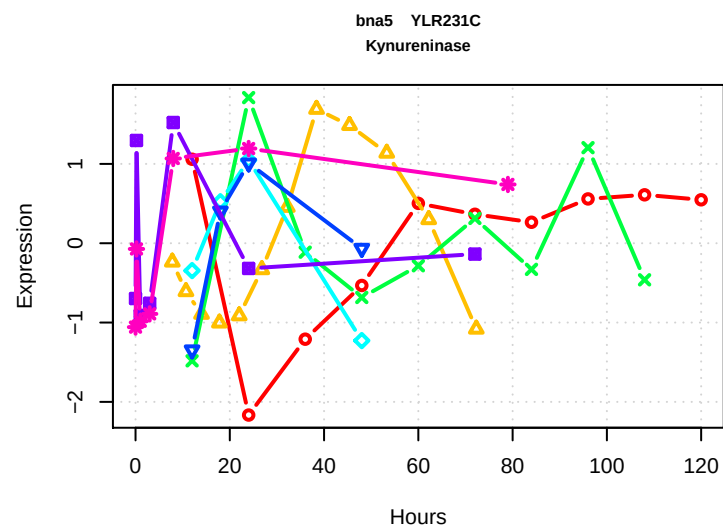
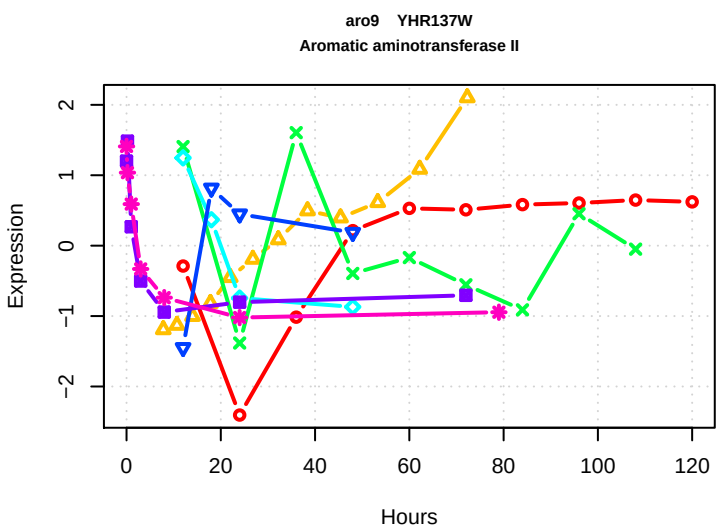
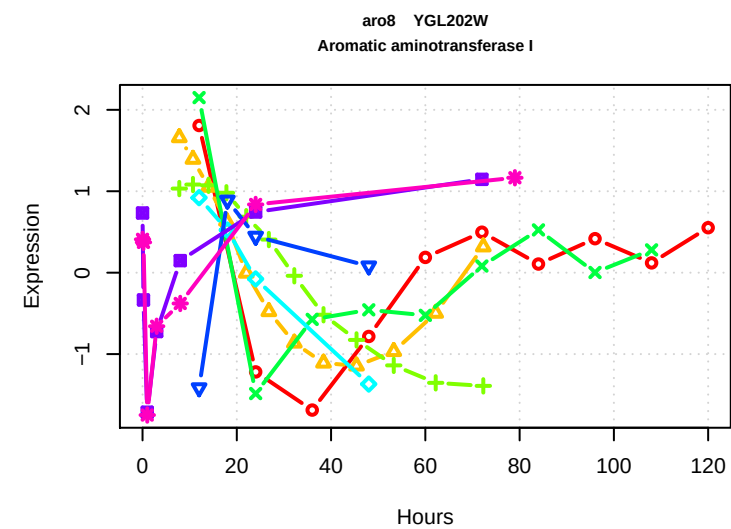
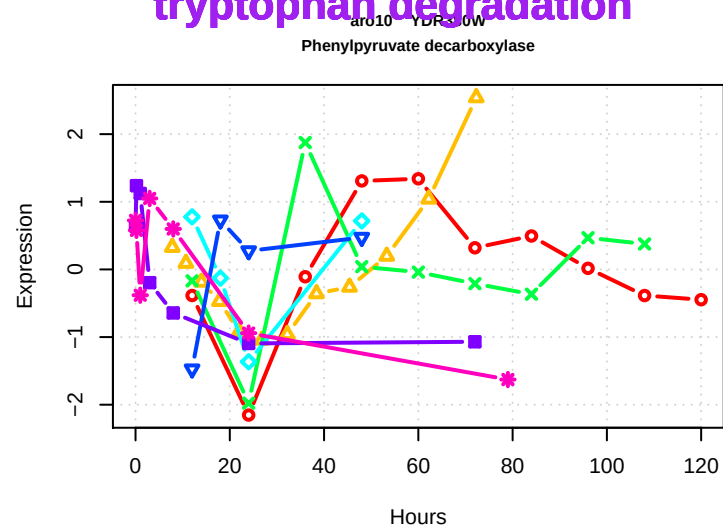
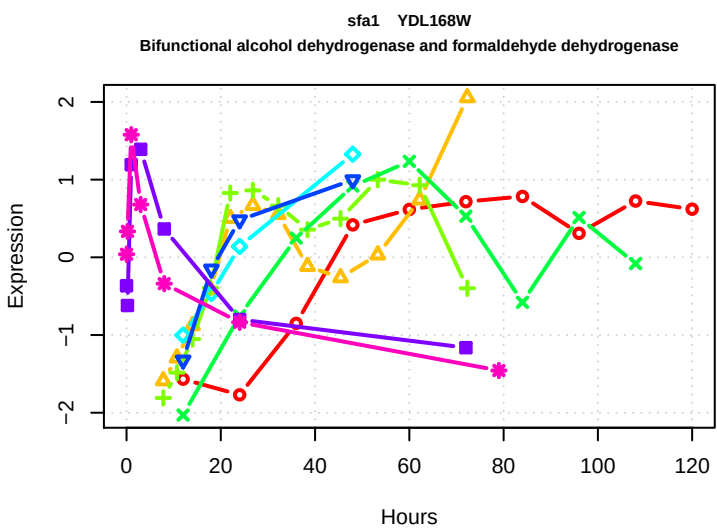


tryptophan degradation

tryptophan degradation

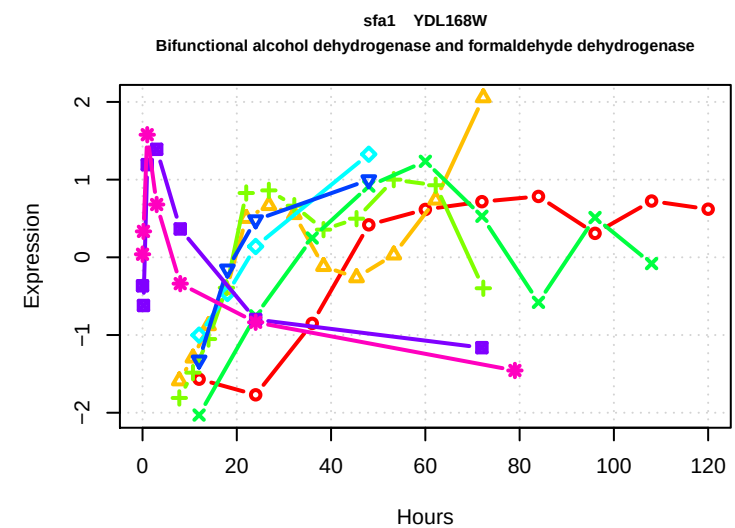
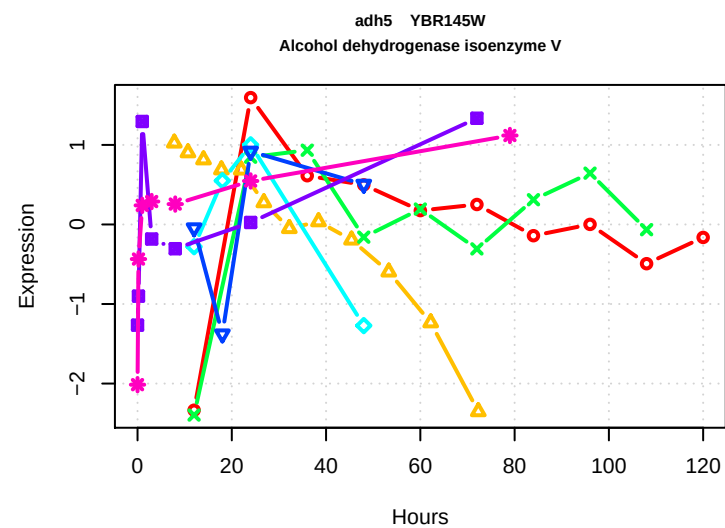
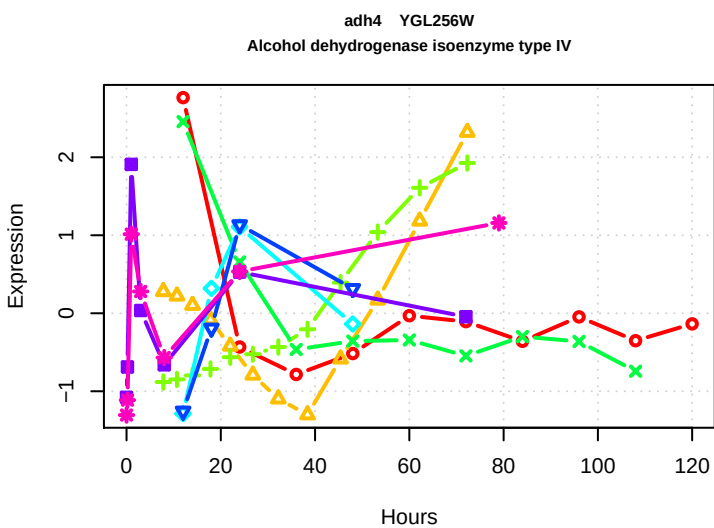
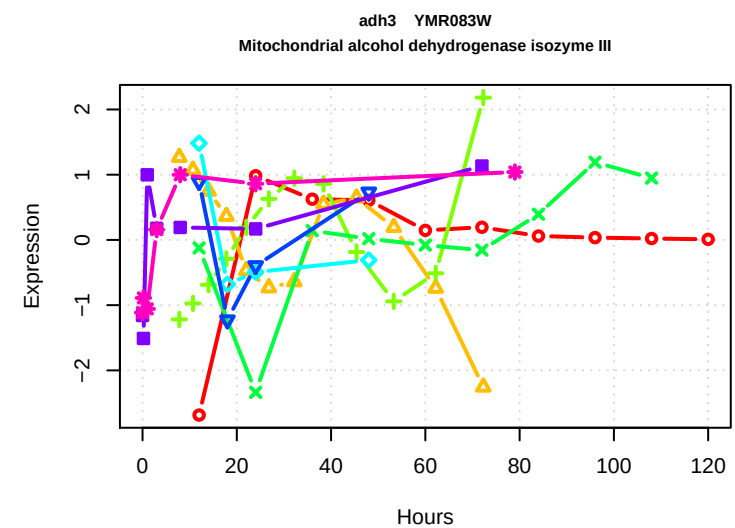
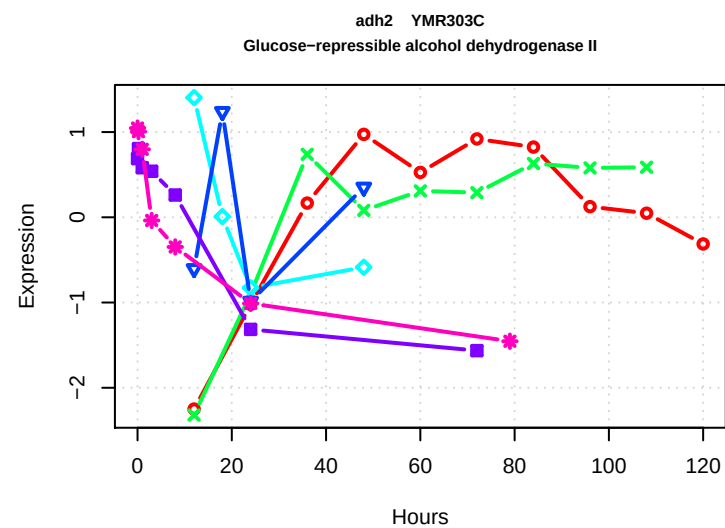
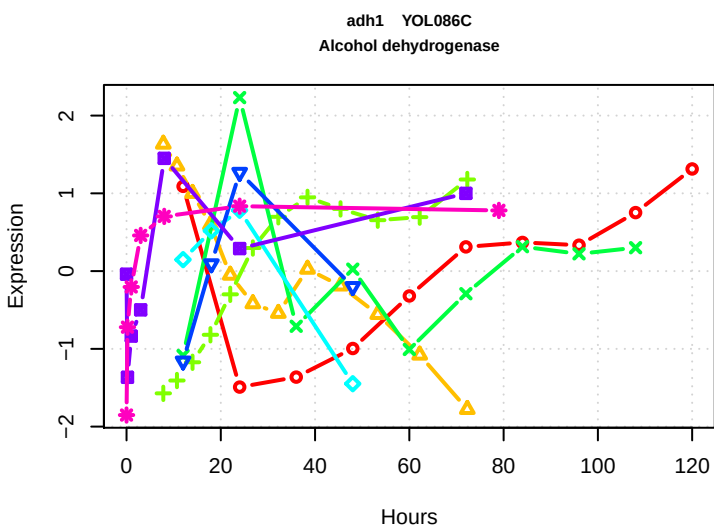
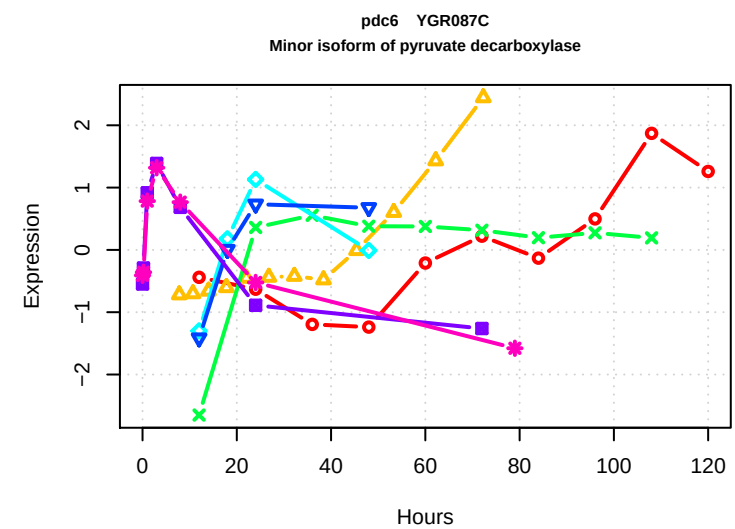
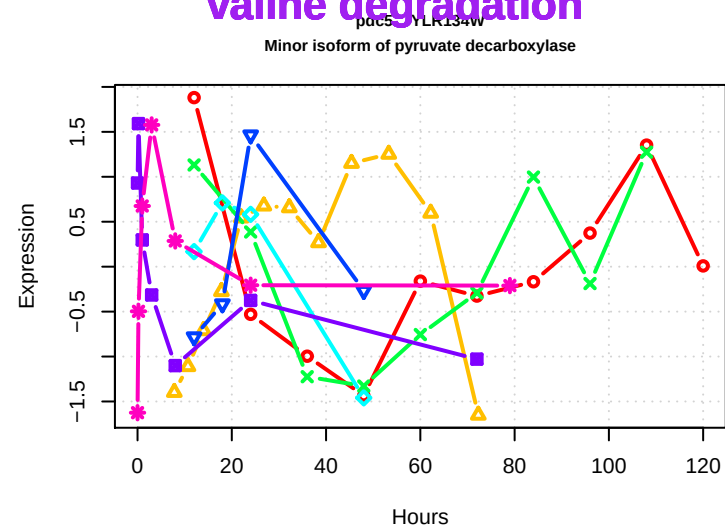
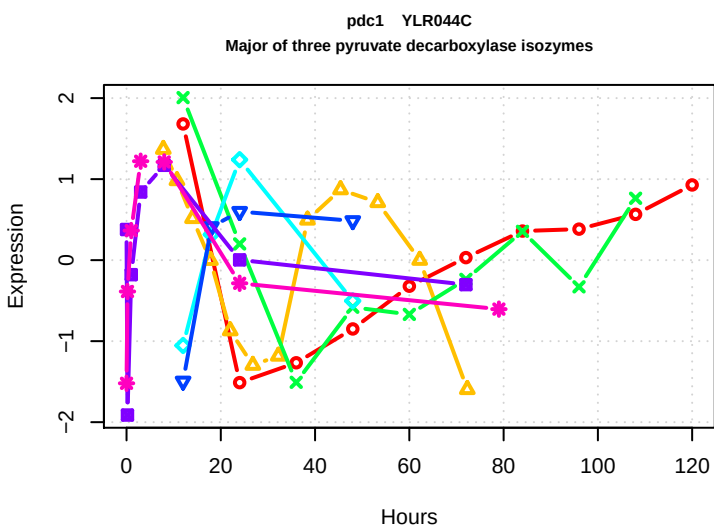


tryptophan degradation

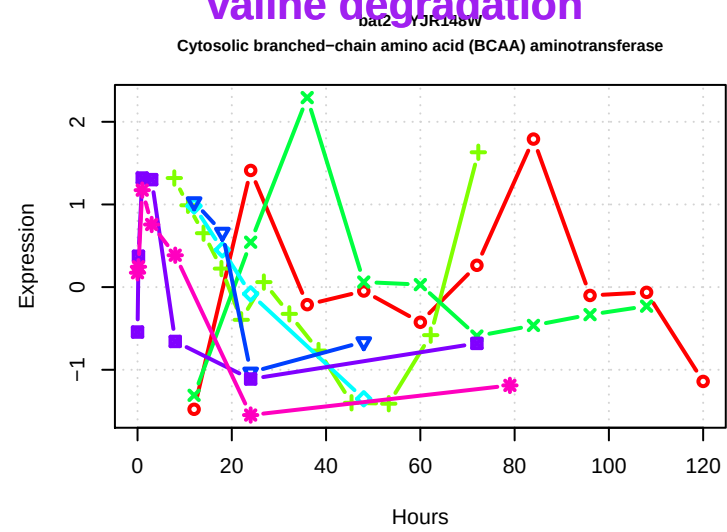
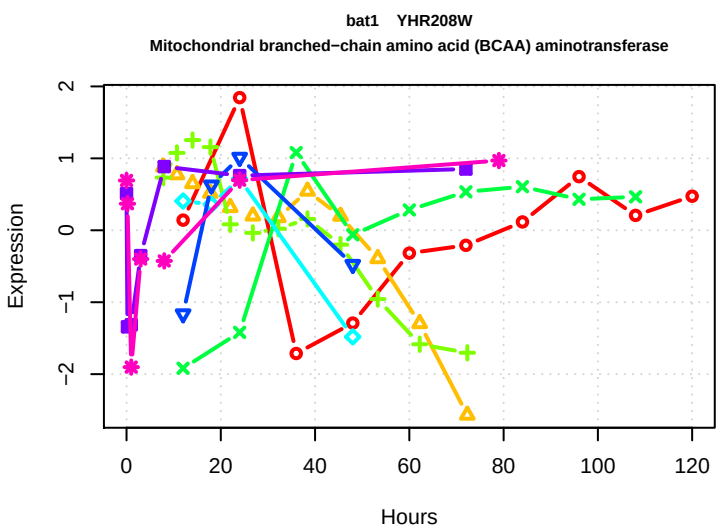


valine degradation

valine degradation

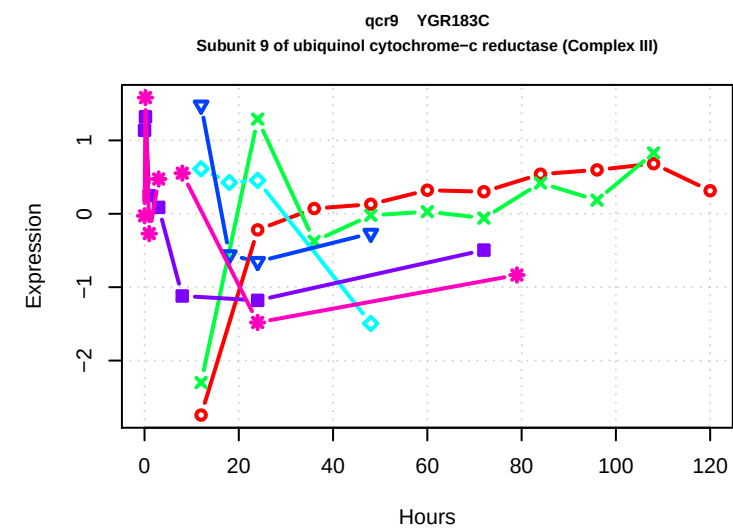
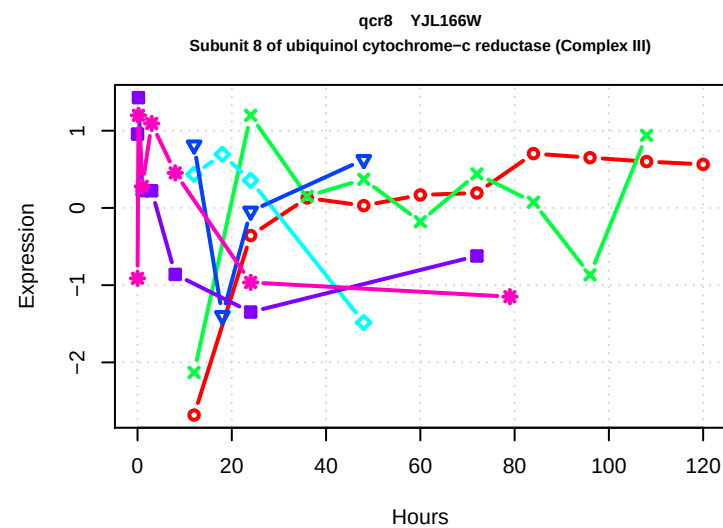
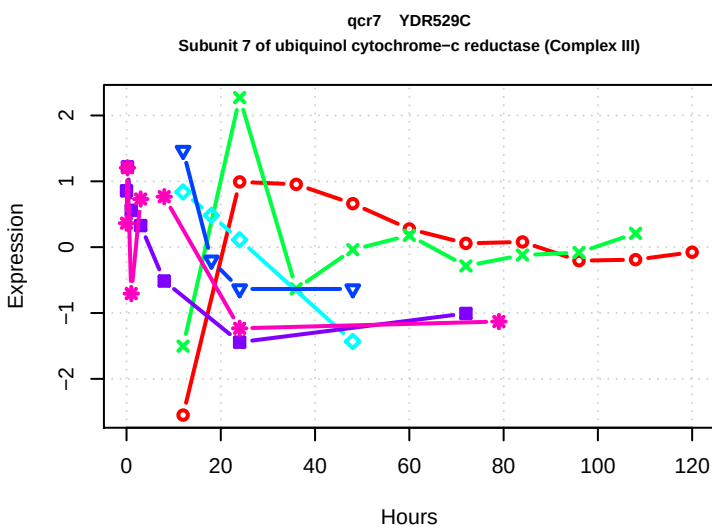
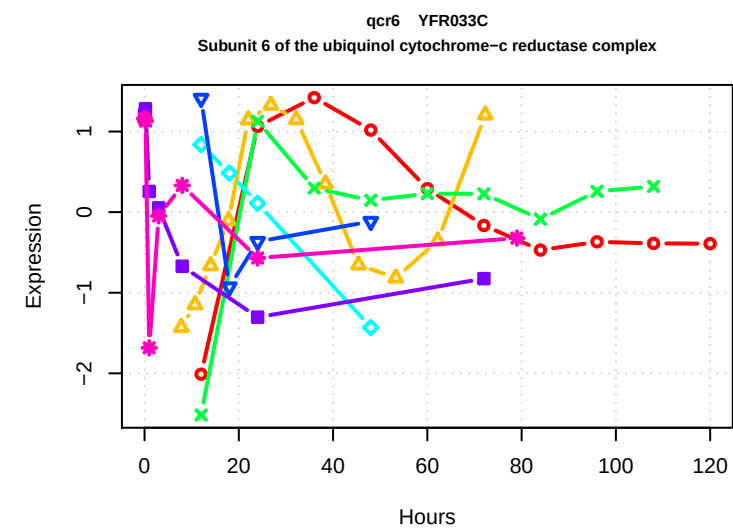
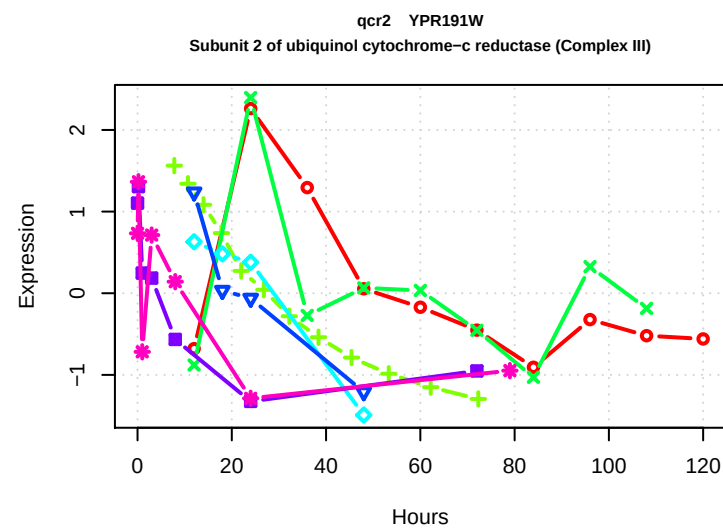
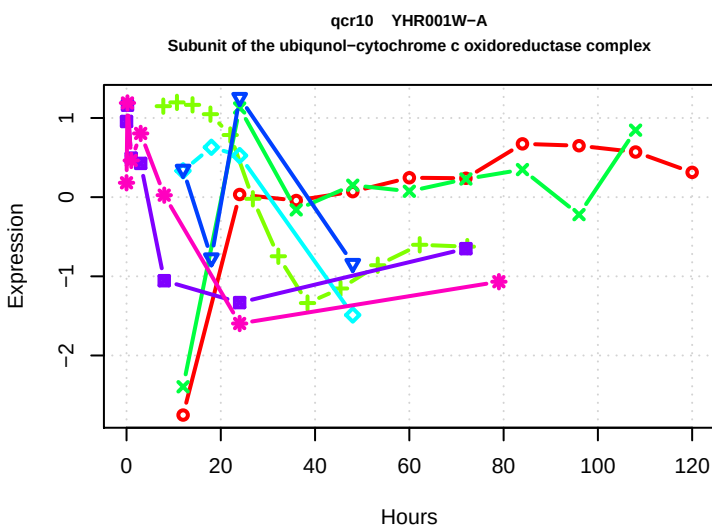
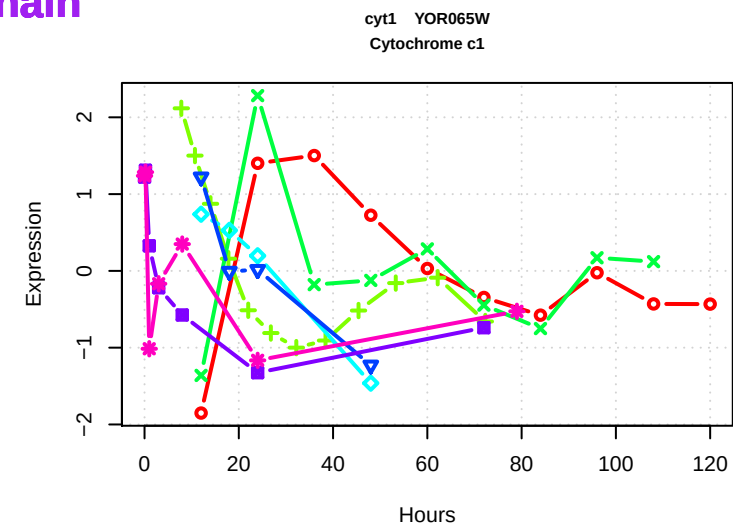
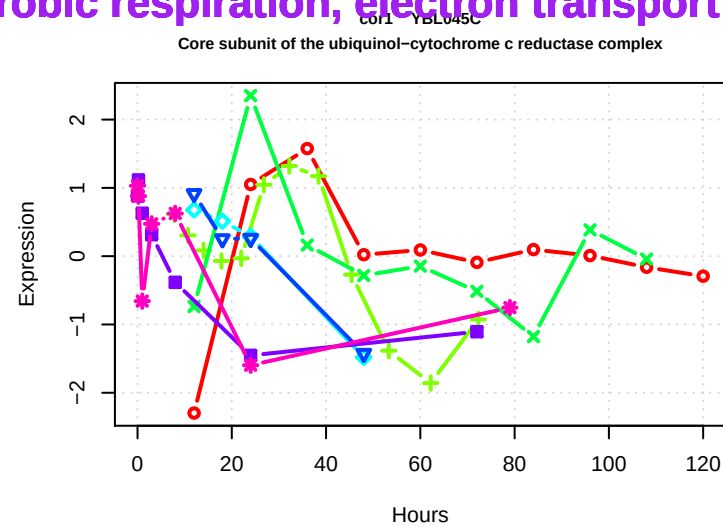
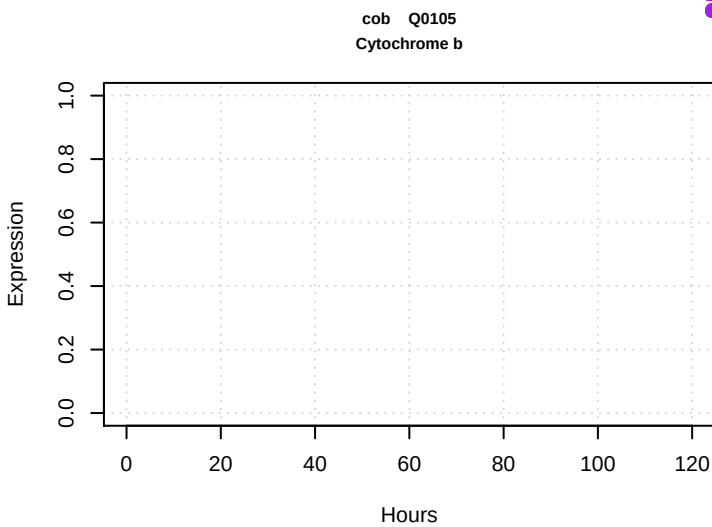


valine degradation

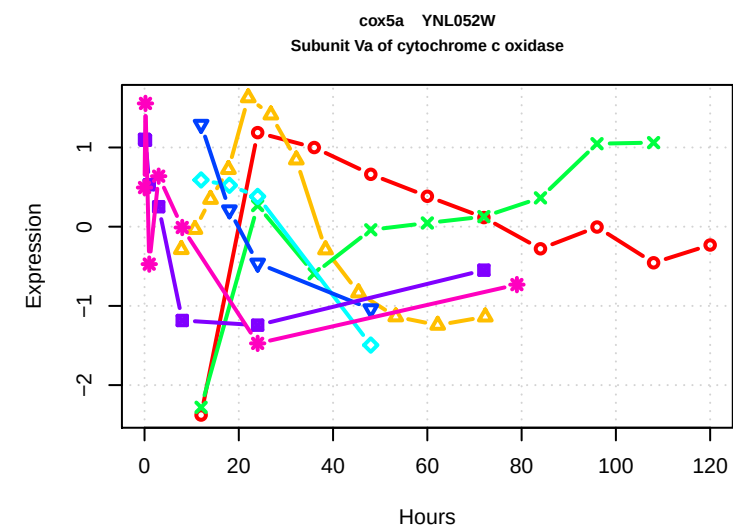
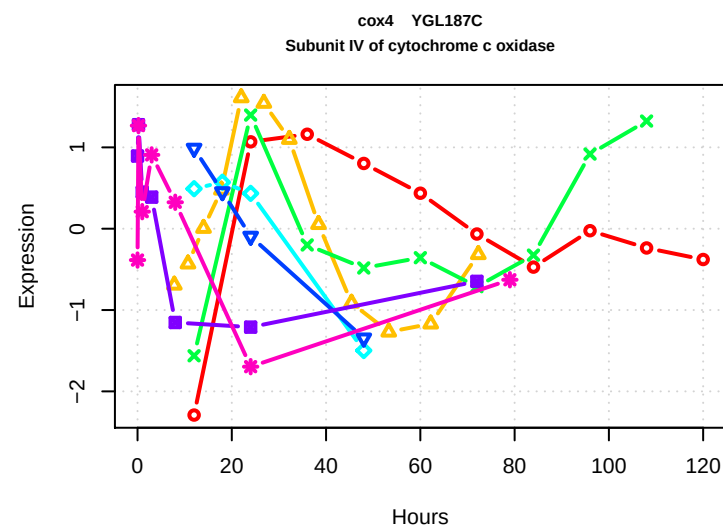
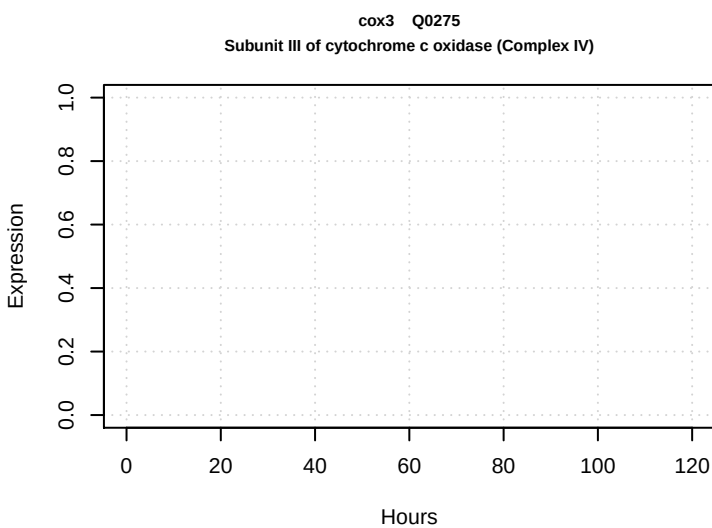
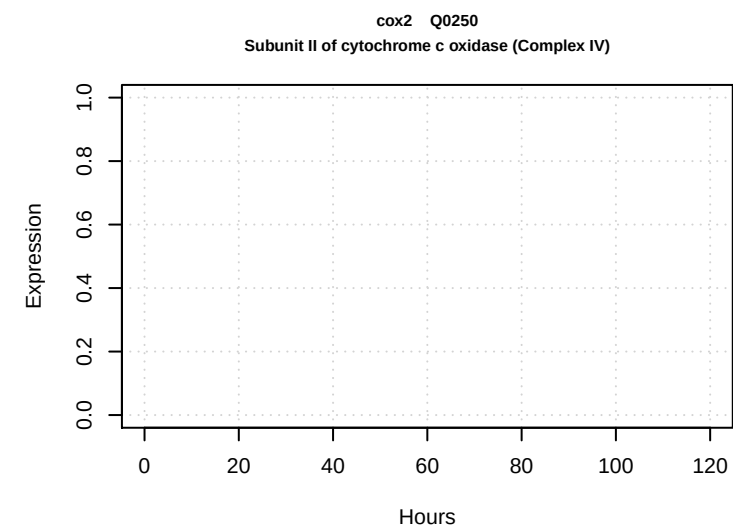
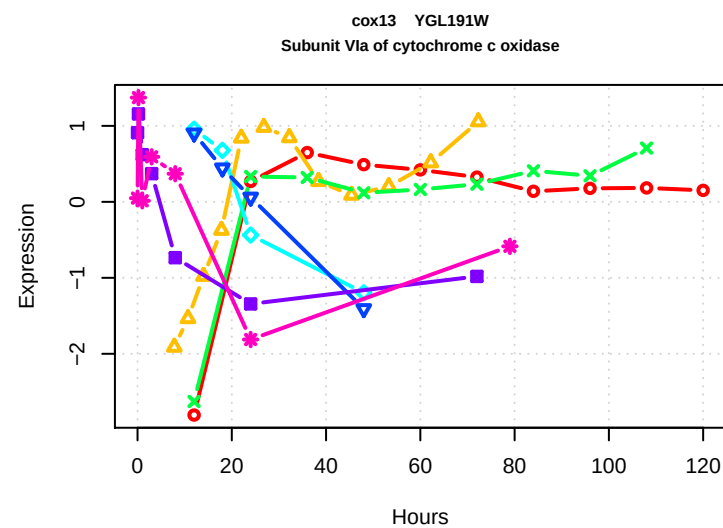
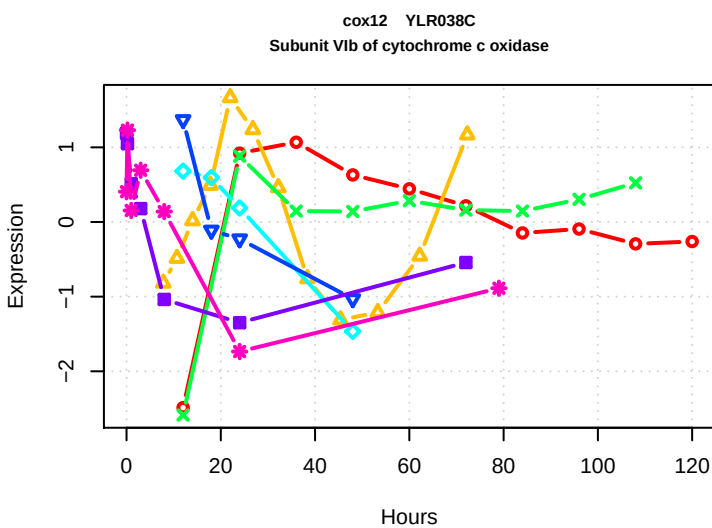
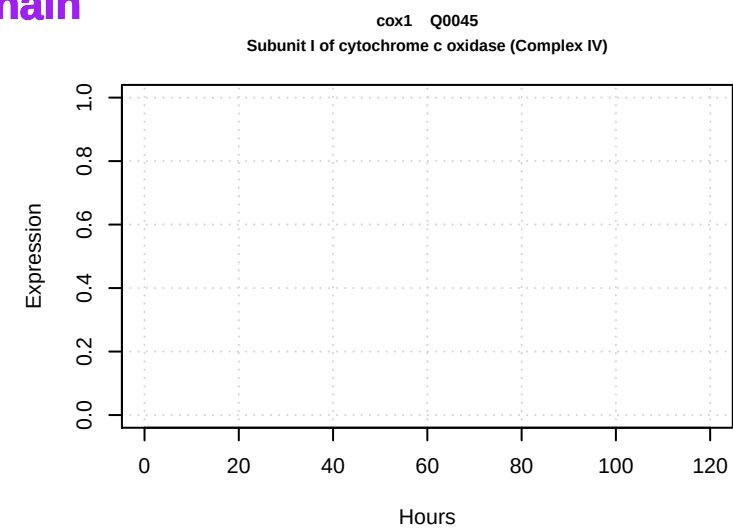
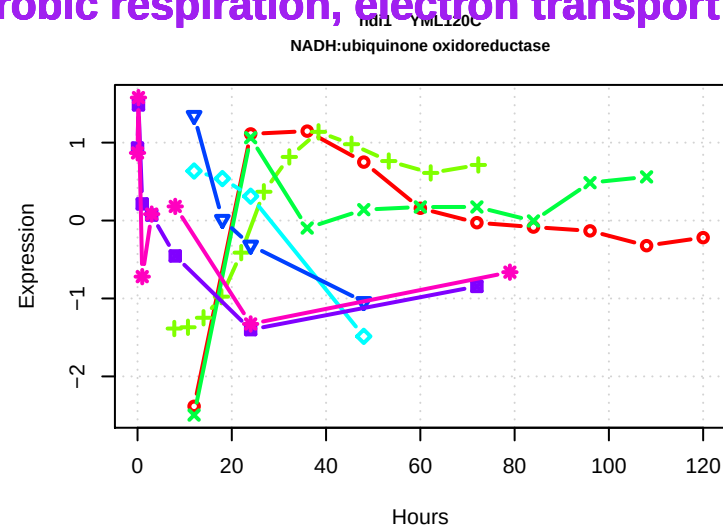
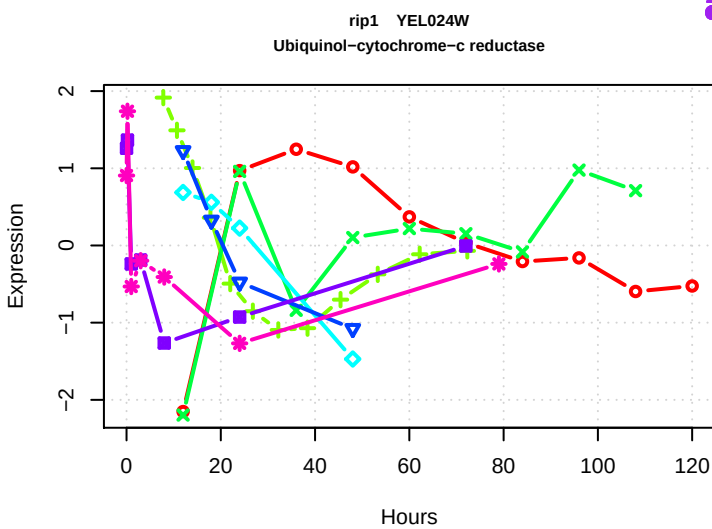


aerobic respiration, electron transport chain

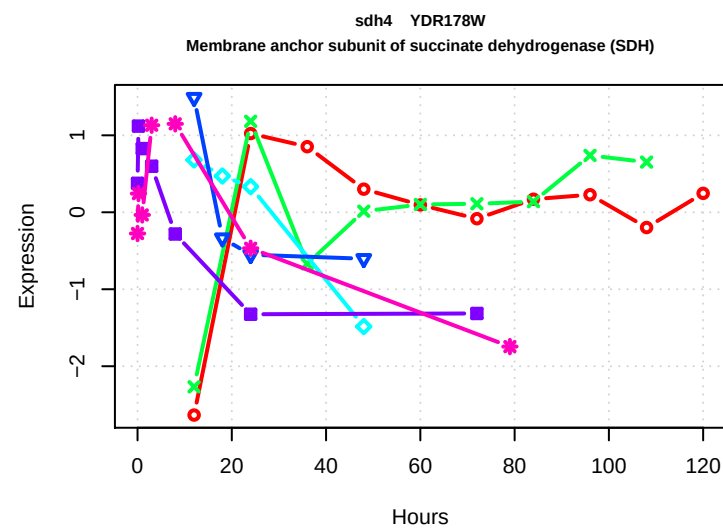
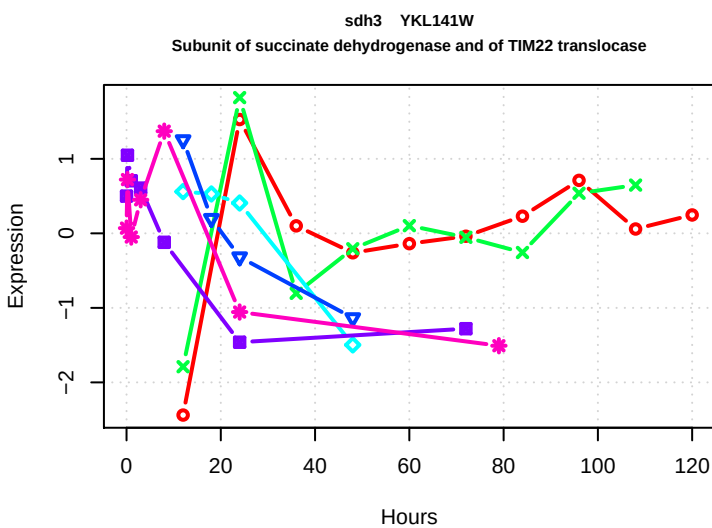
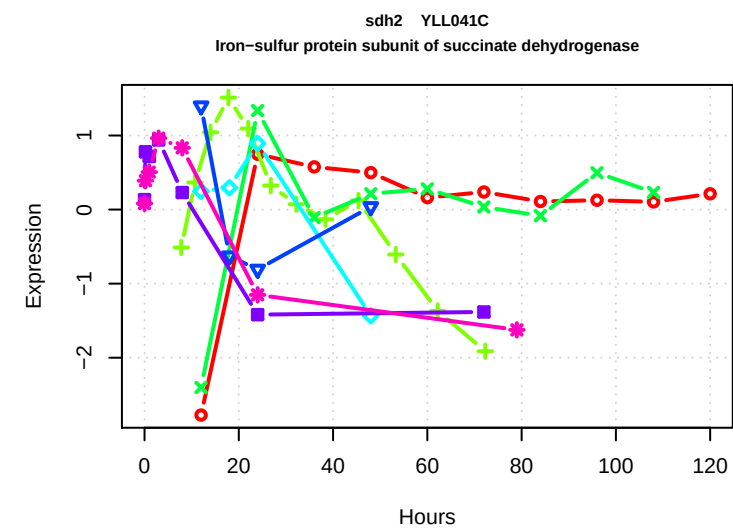
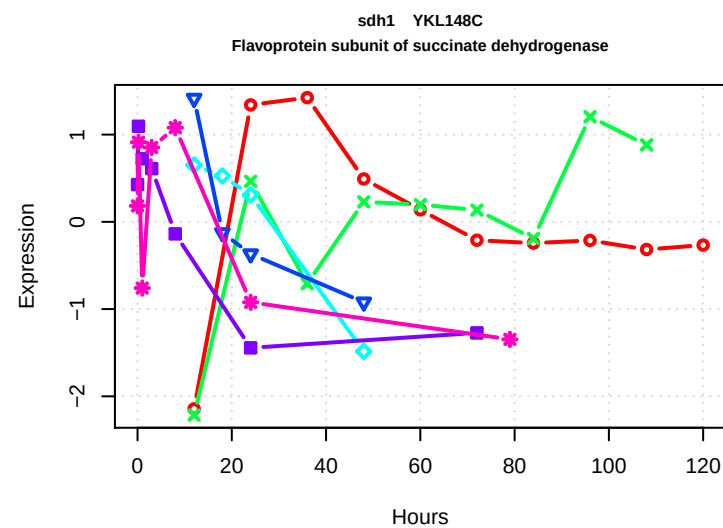
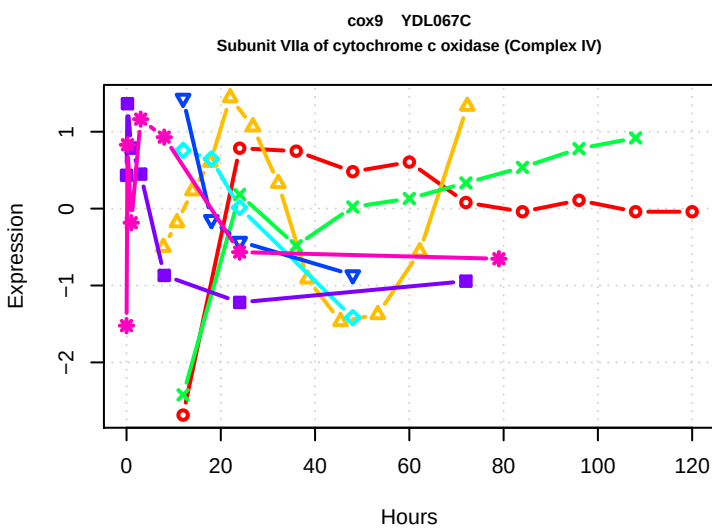
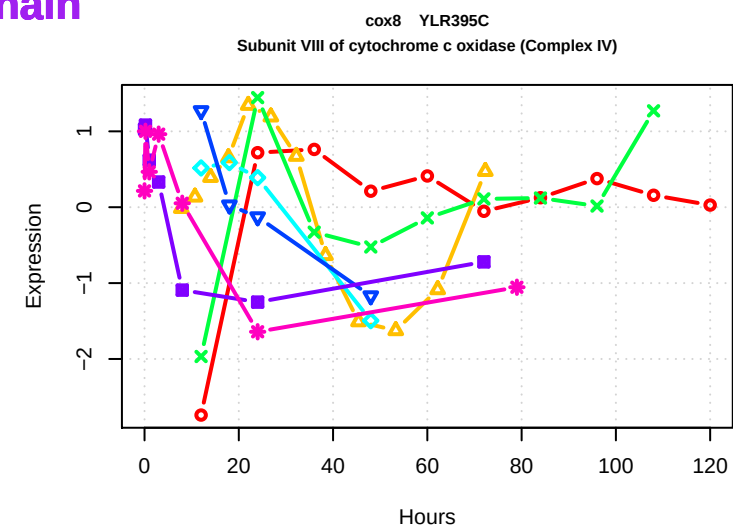
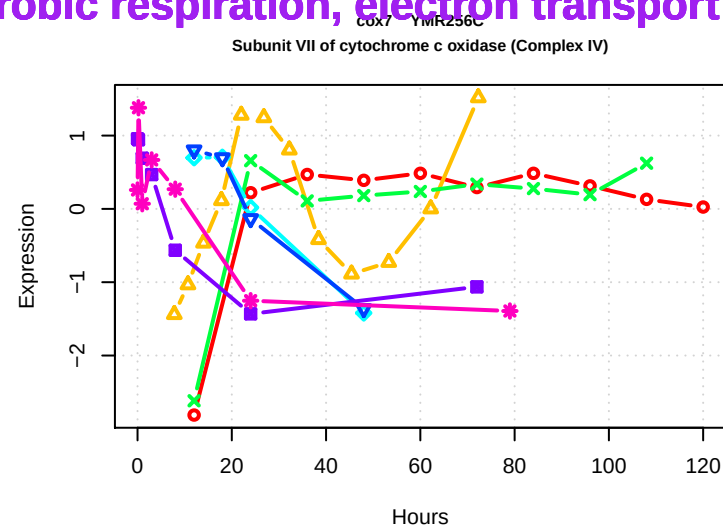
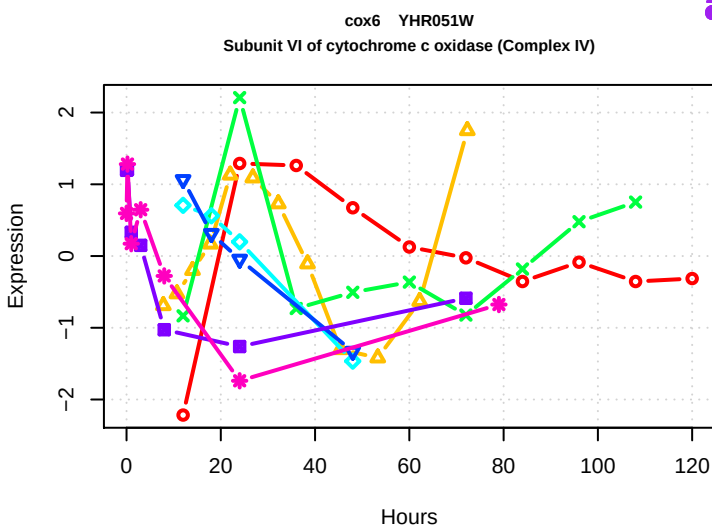
aerobic respiration, electron transport chain



aerobic respiration, electron transport chain

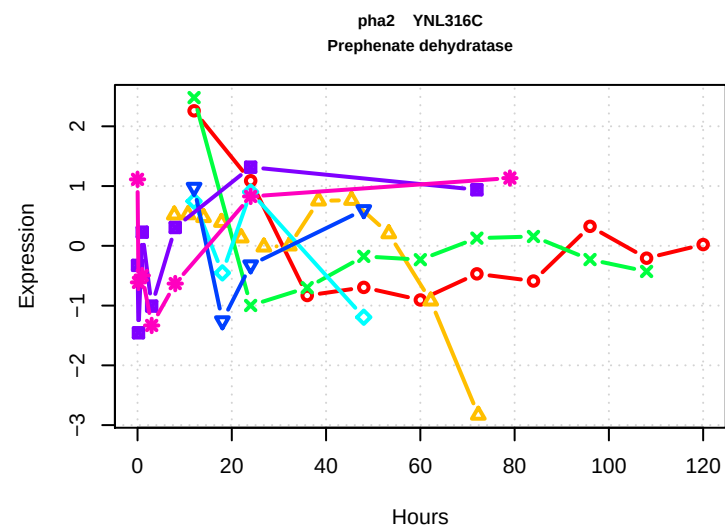
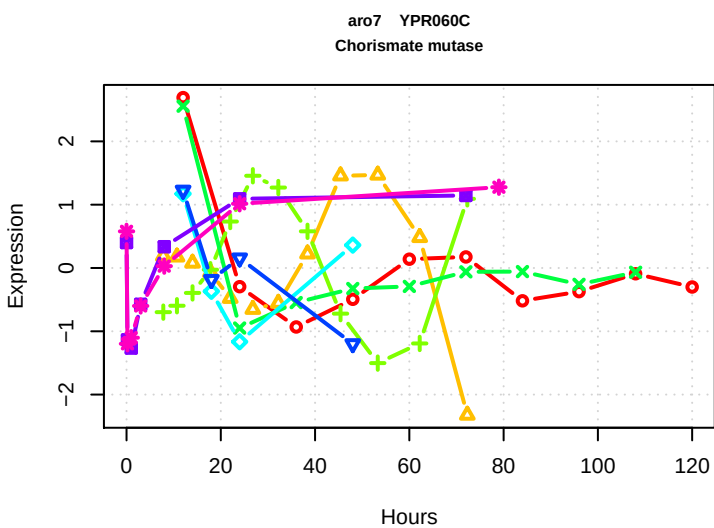
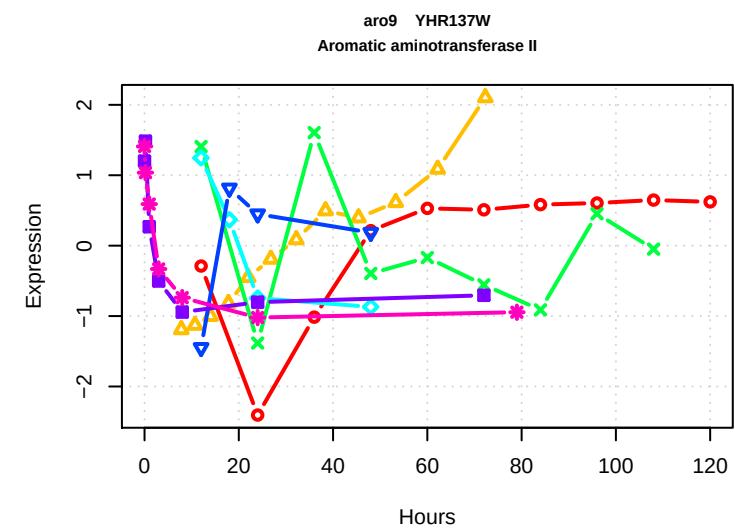
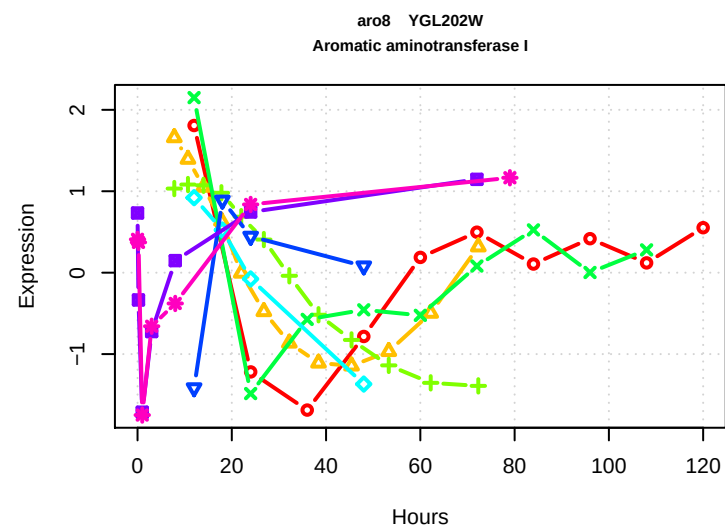
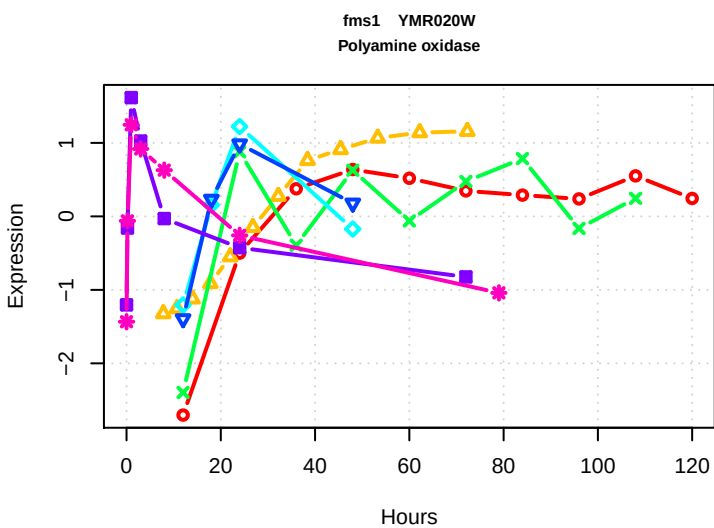
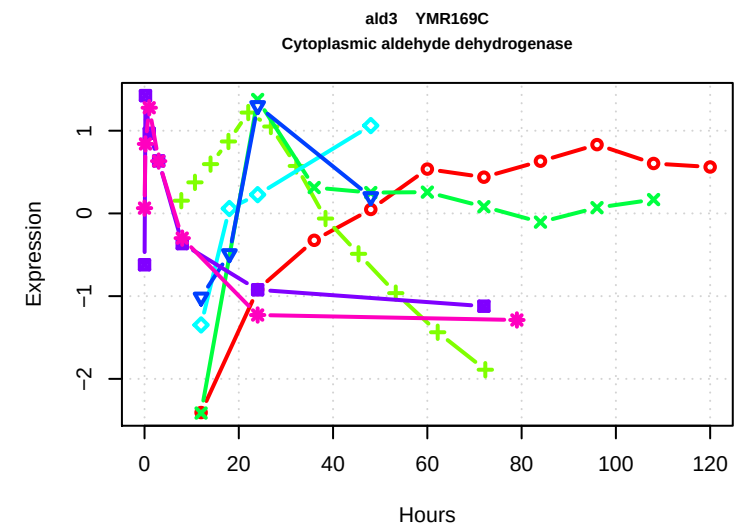
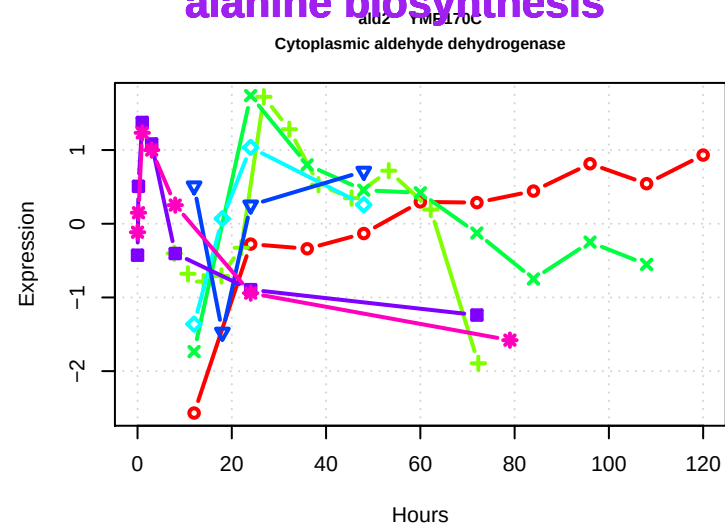
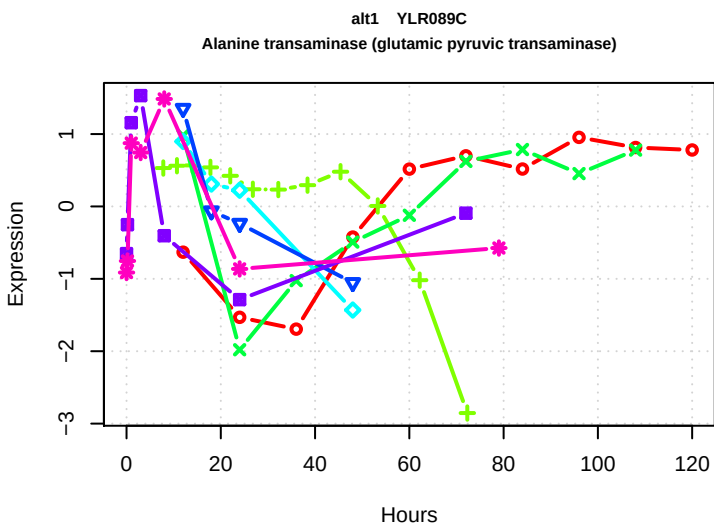


aerobic respiration, electron transport chain



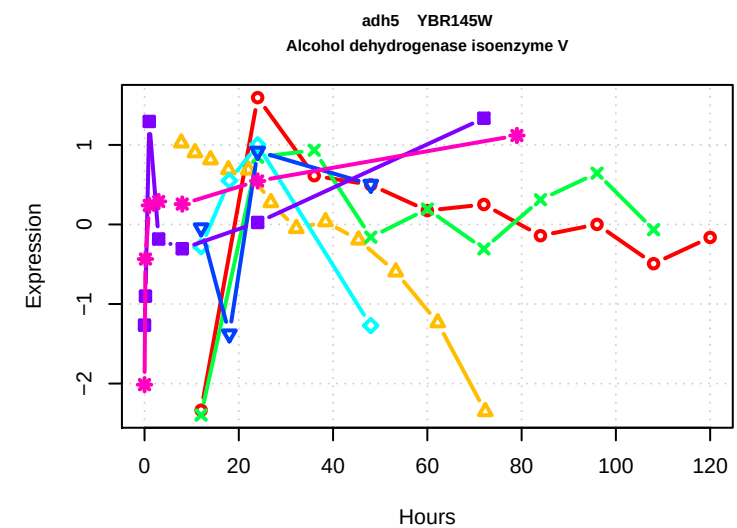
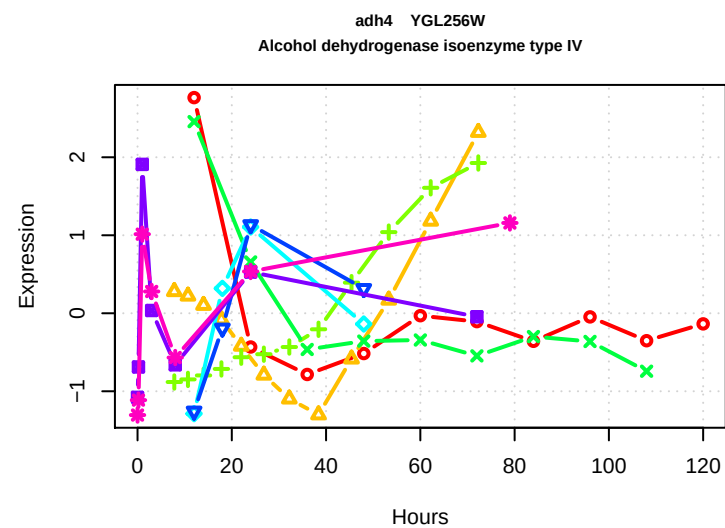
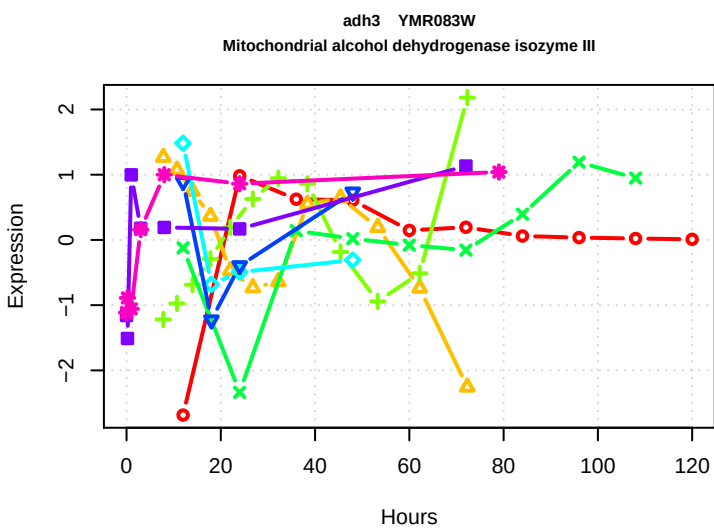
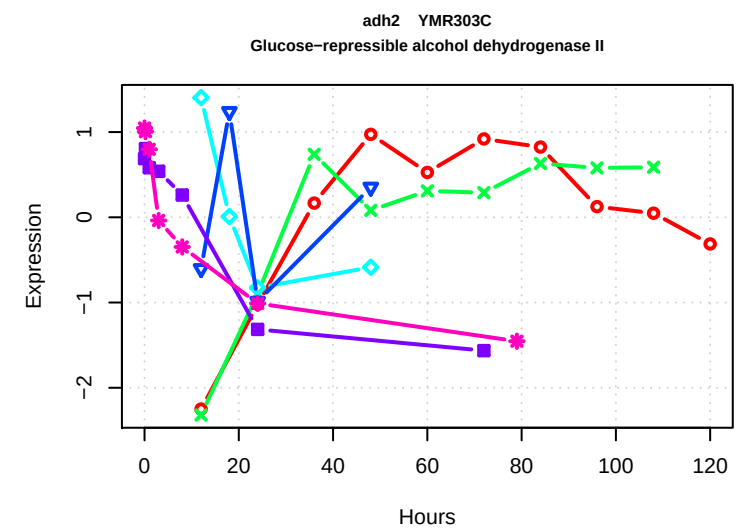
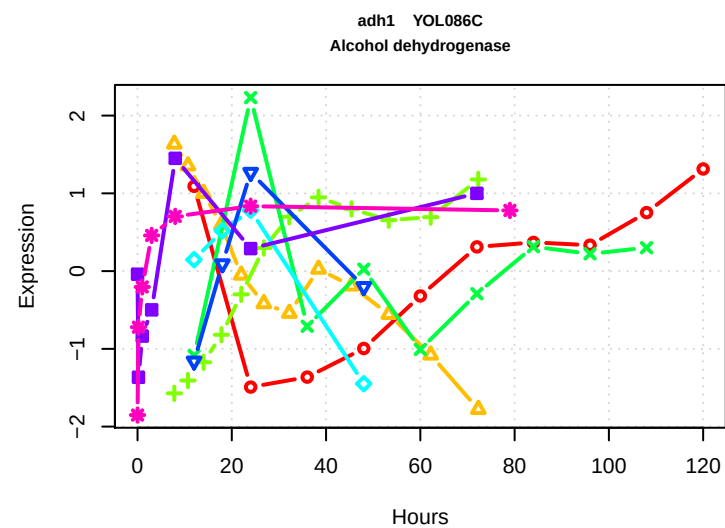
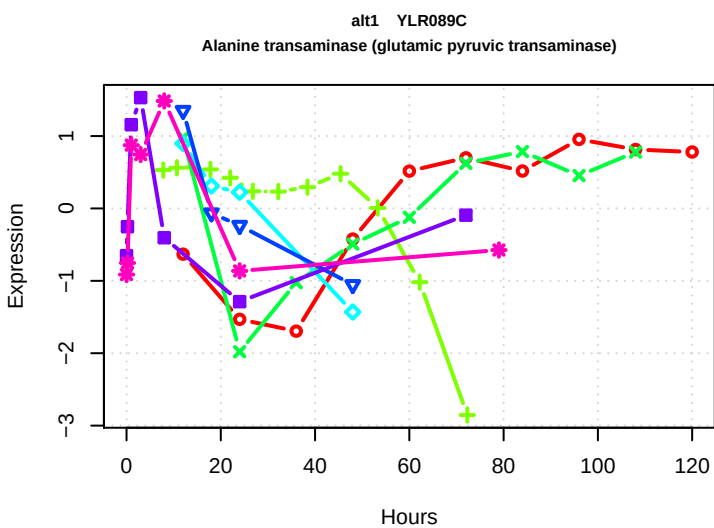
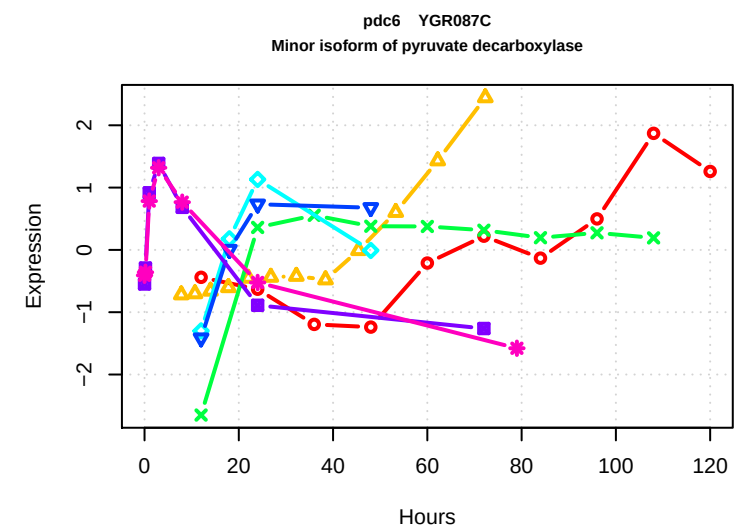
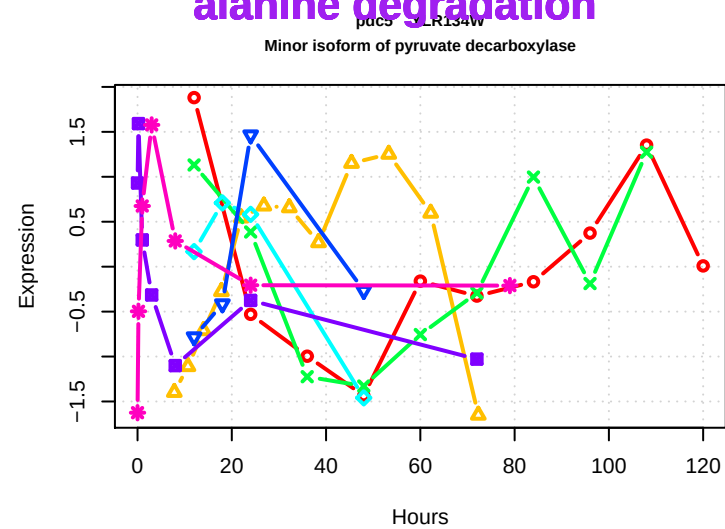
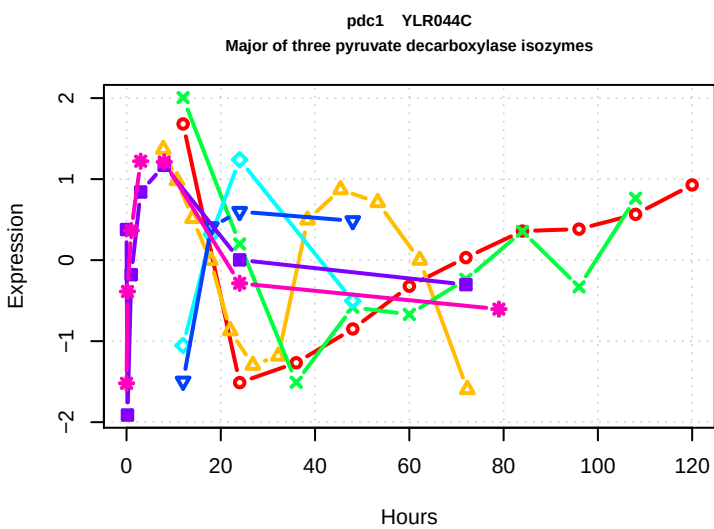
alanine biosynthesis

alanine synthesis

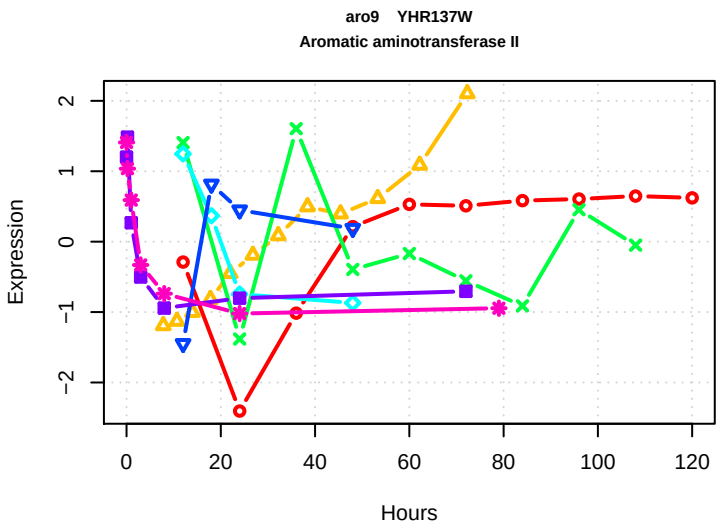
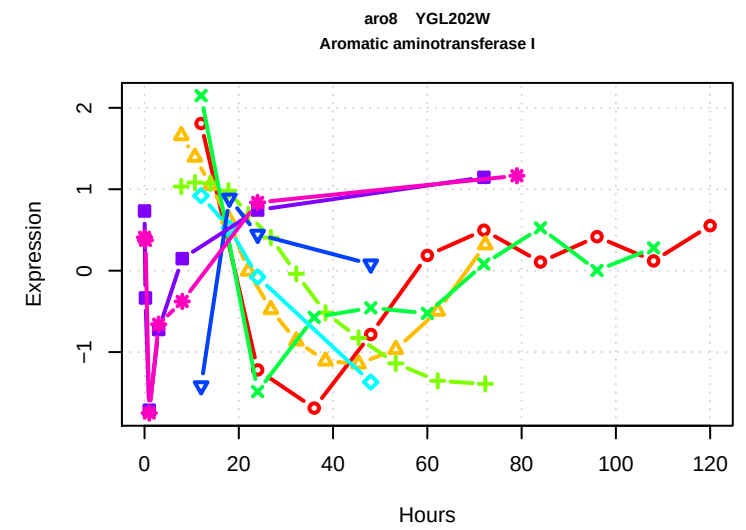
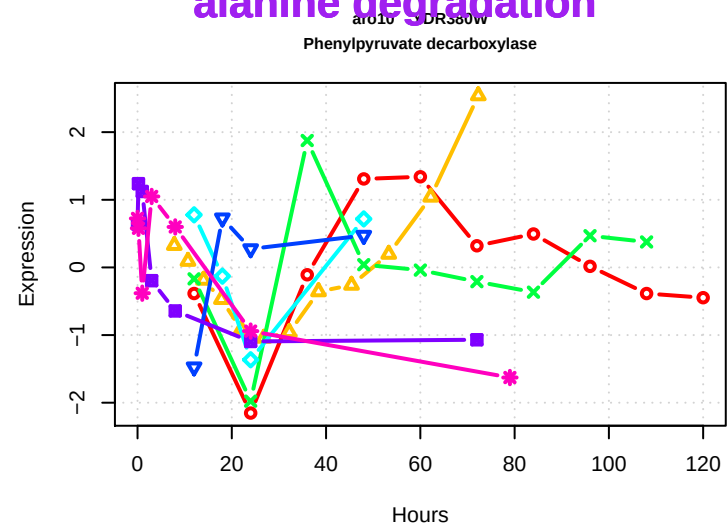
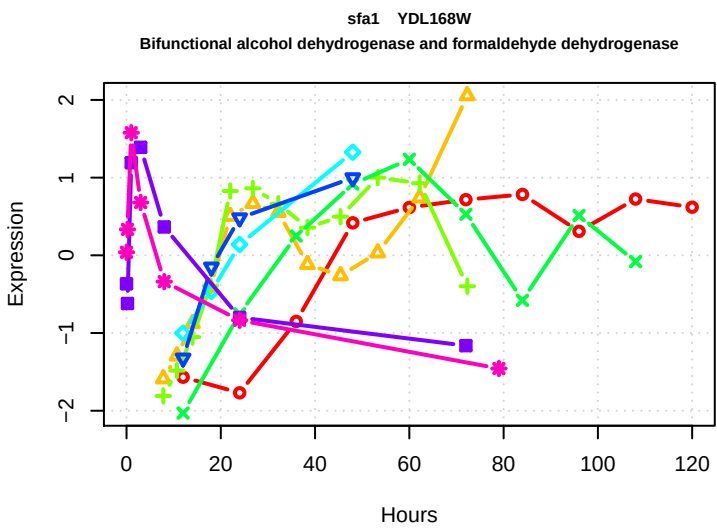


alanine degradation

alanine degradation

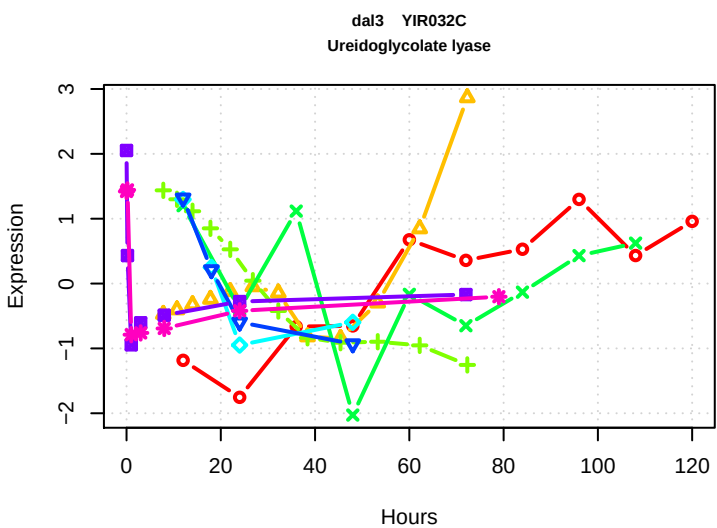
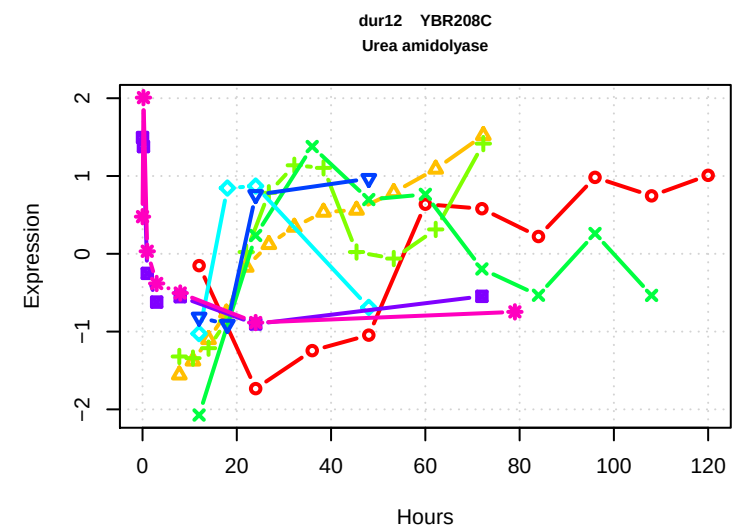
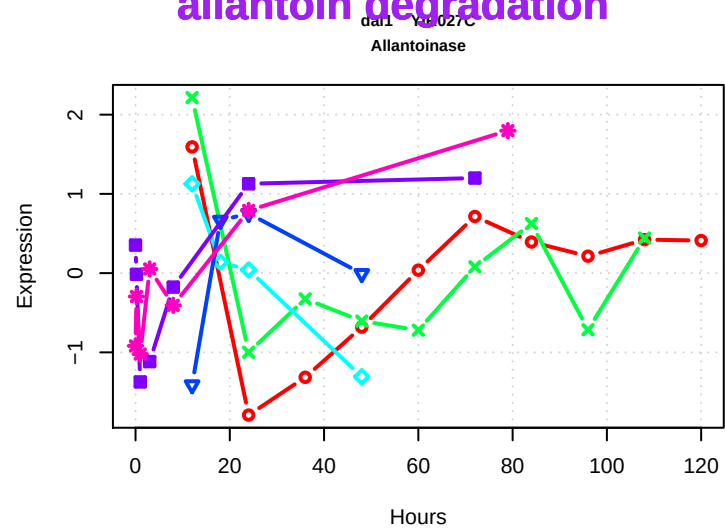
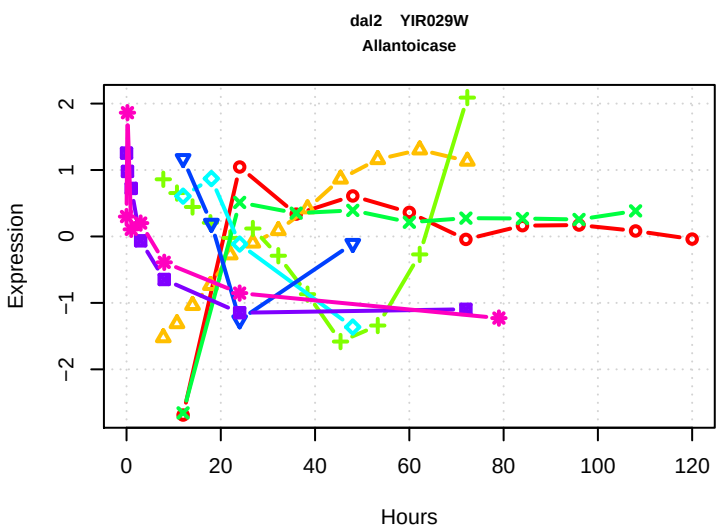


alanine degradation



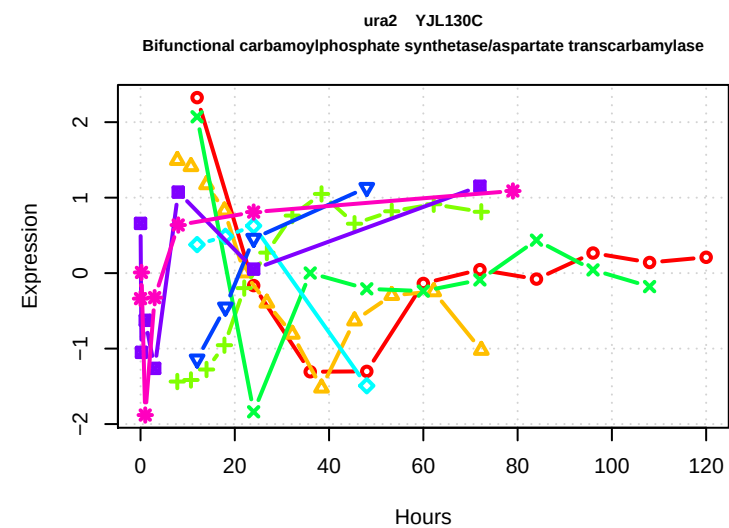
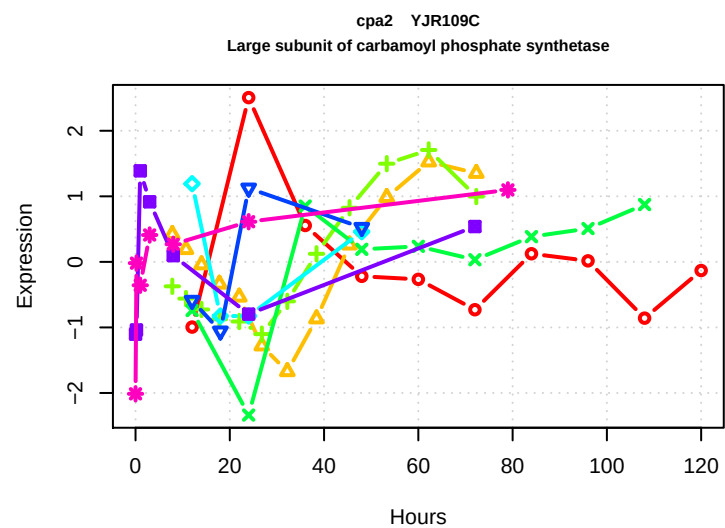
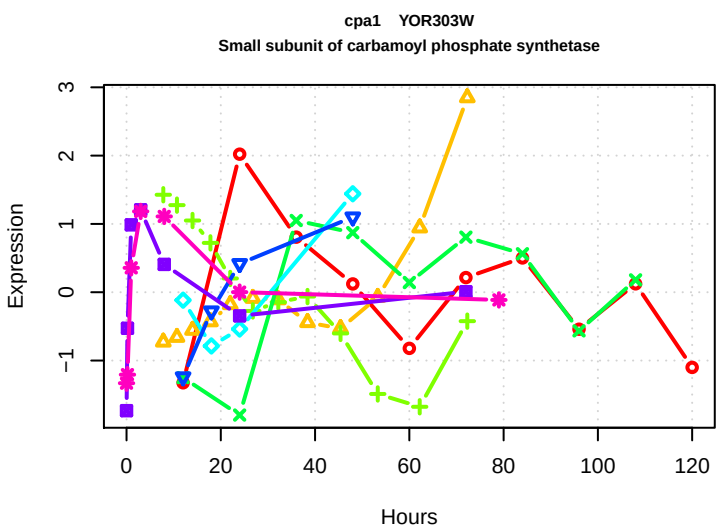
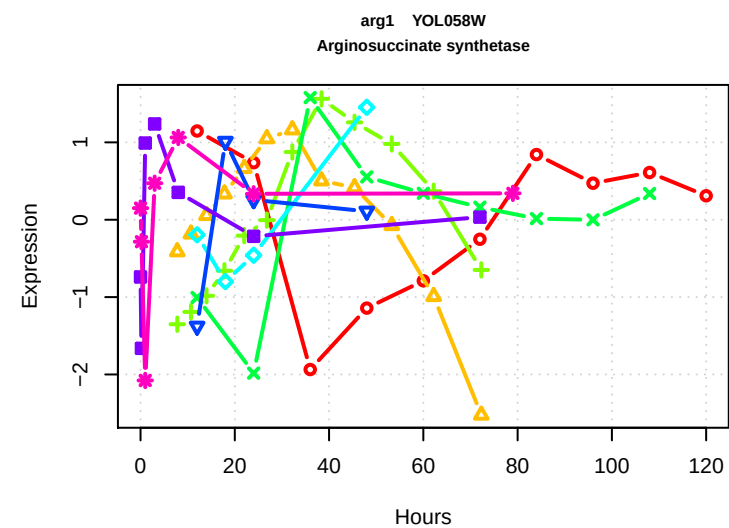
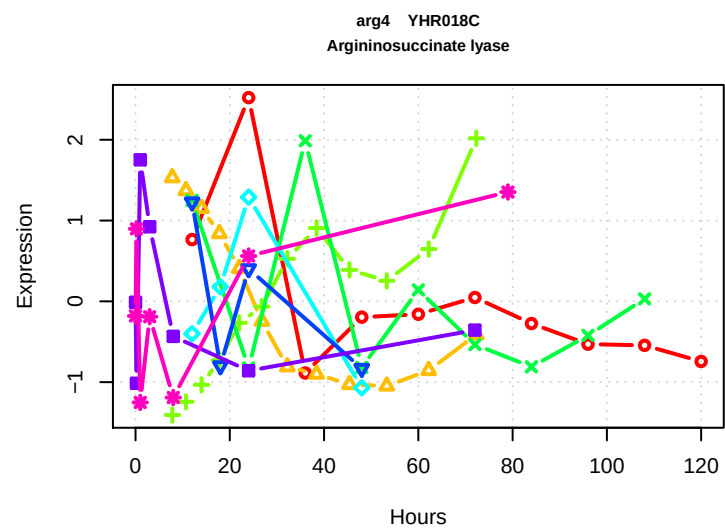
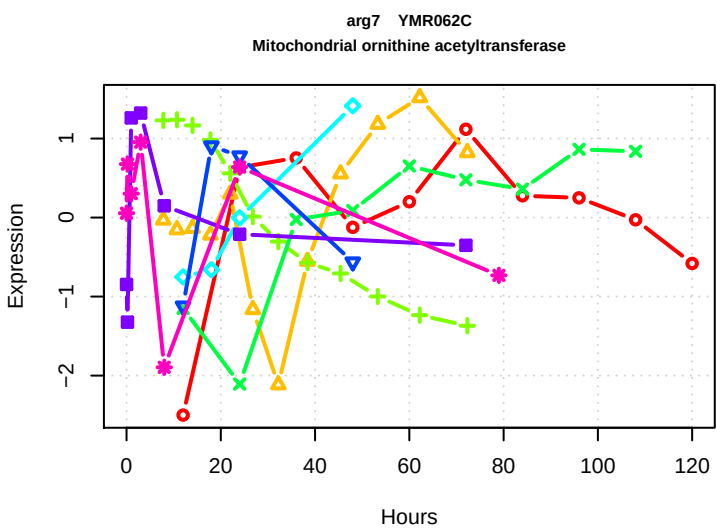
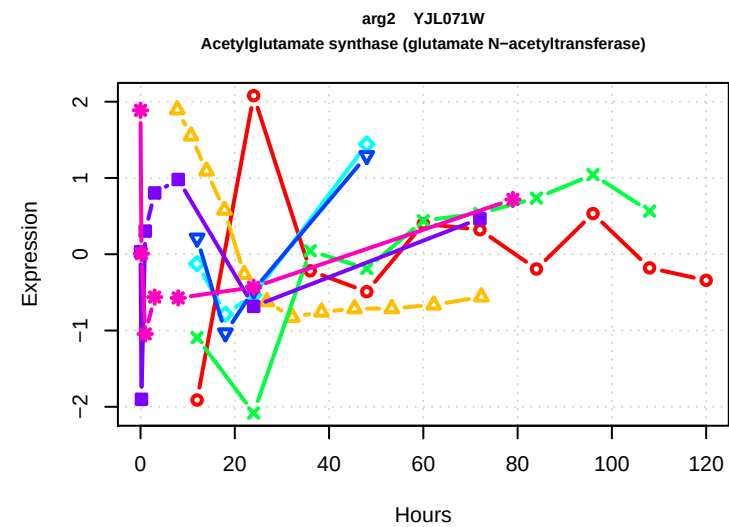
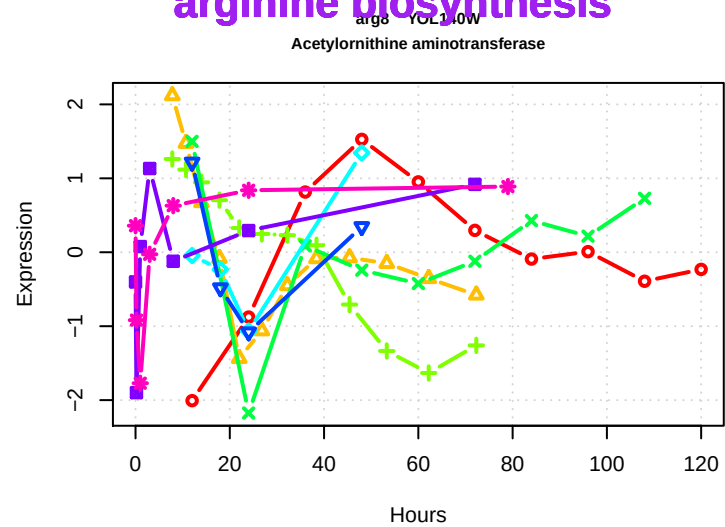
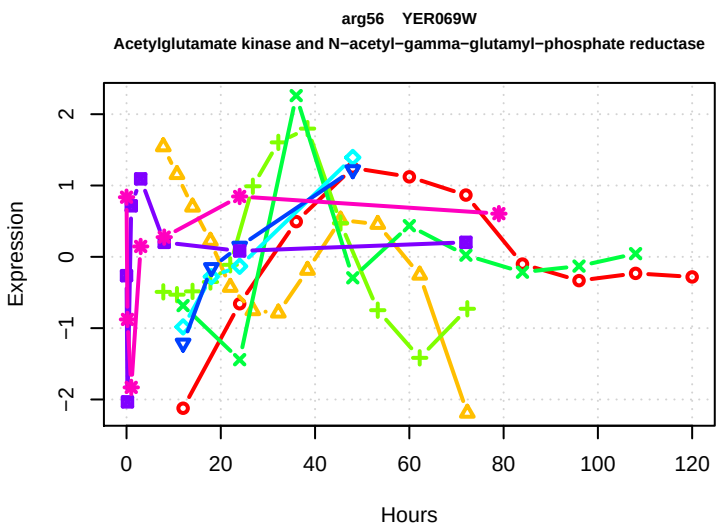
allantoin degradation

allantoin degradation

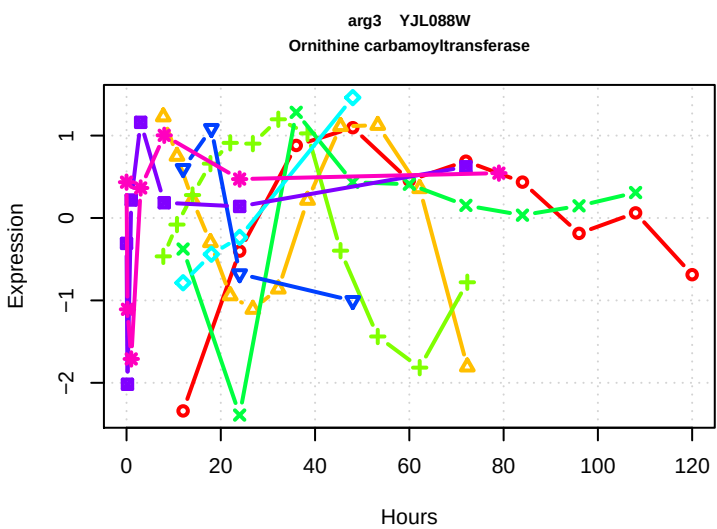


arginine biosynthesis

arginine biosynthesis

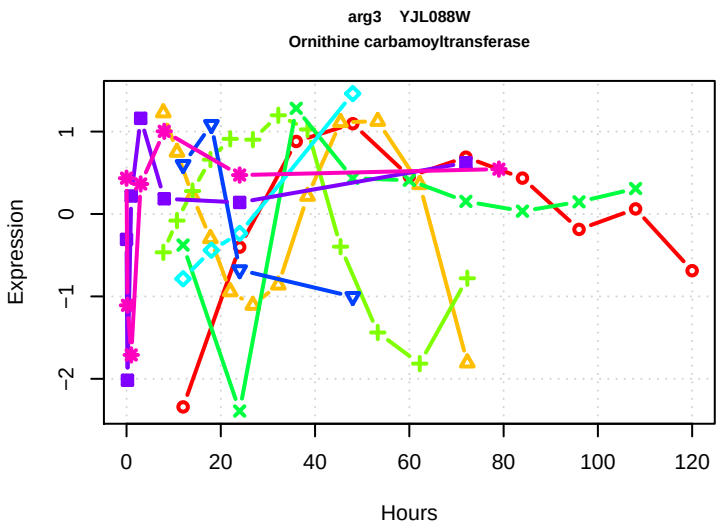
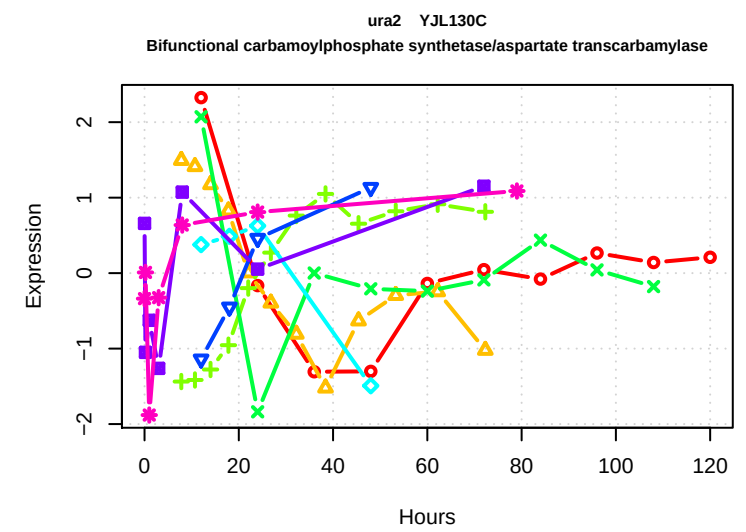
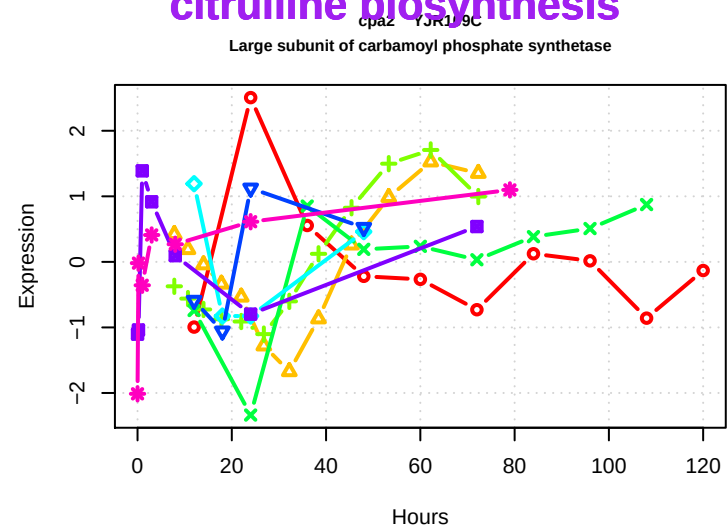
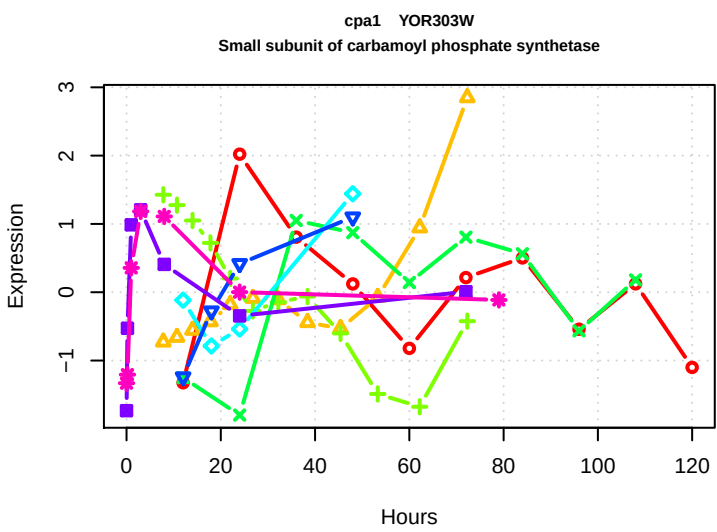


arginine biosynthesis



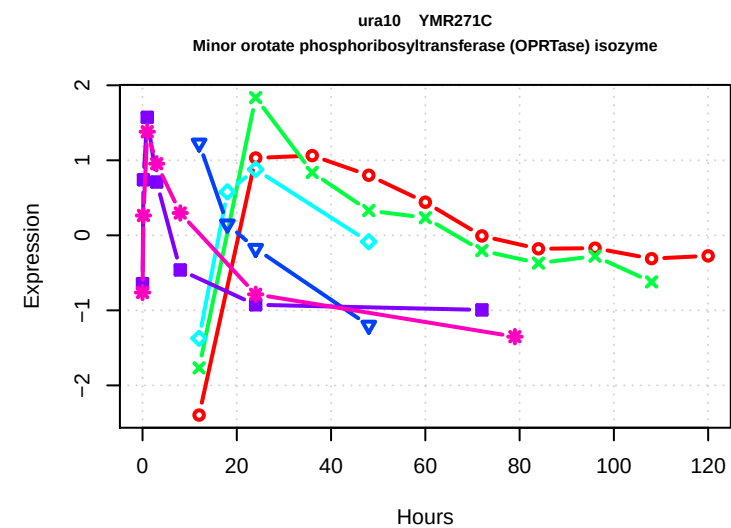
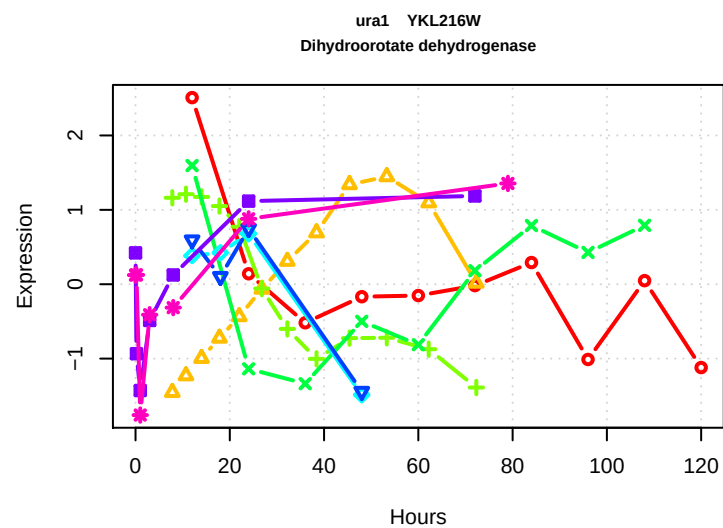
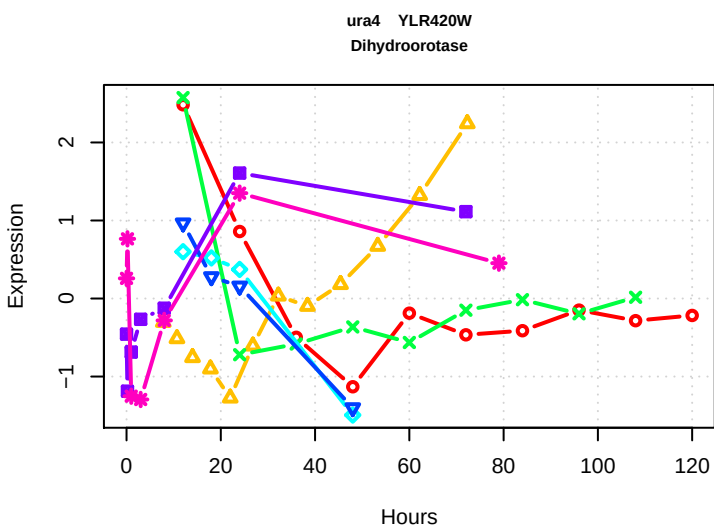
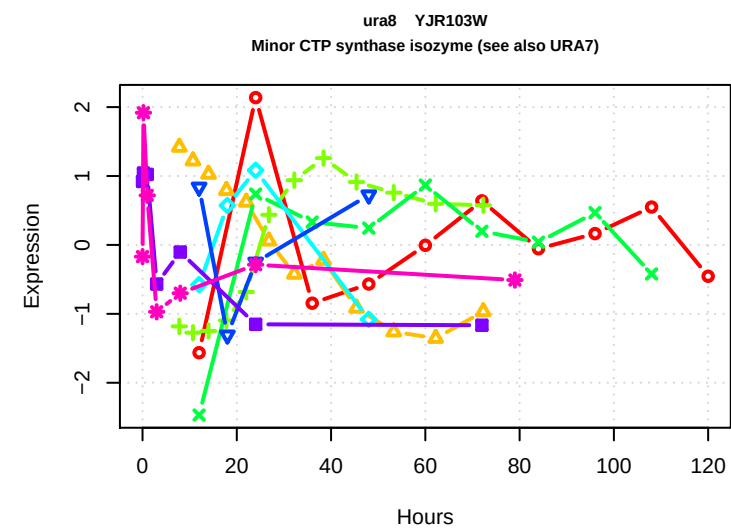
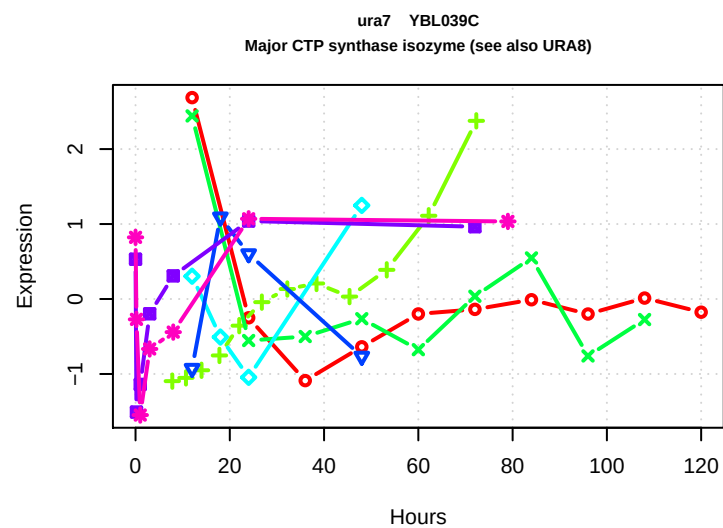
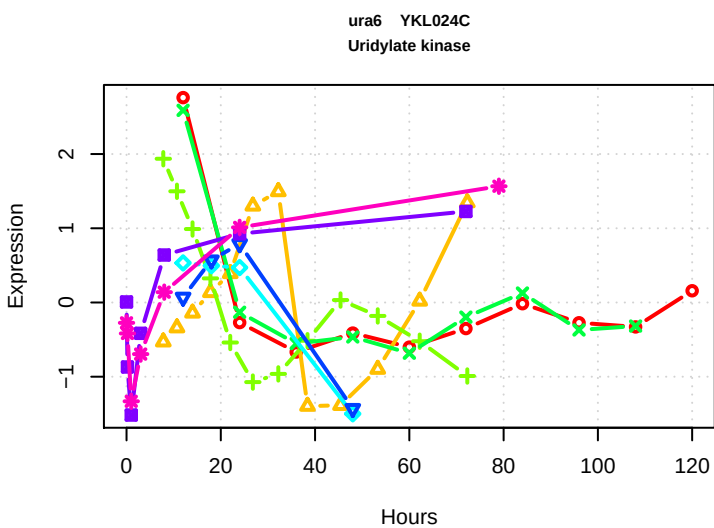
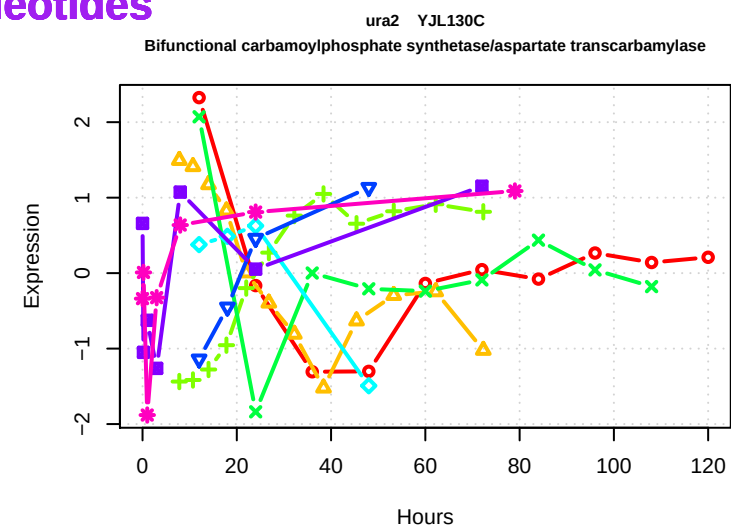
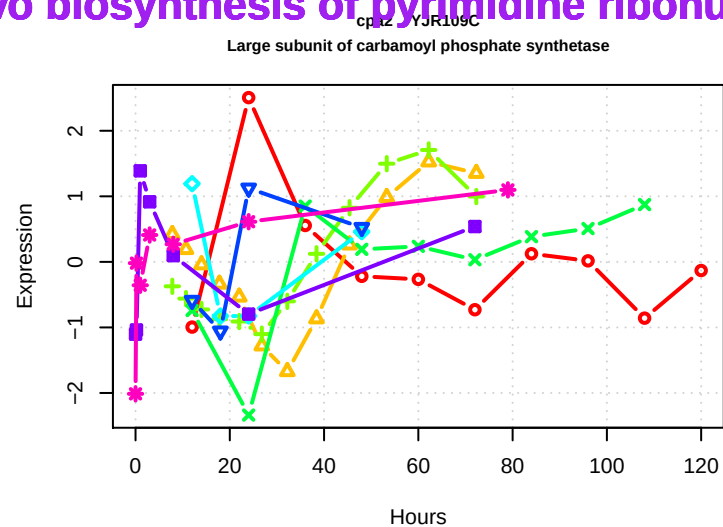
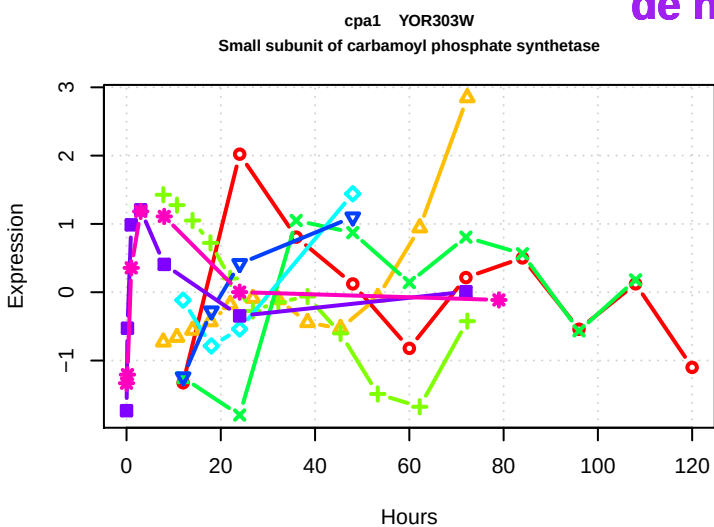
citrulline biosynthesis

citrulline biosynthesis



de novo biosynthesis of pyrimidine ribonucleotides

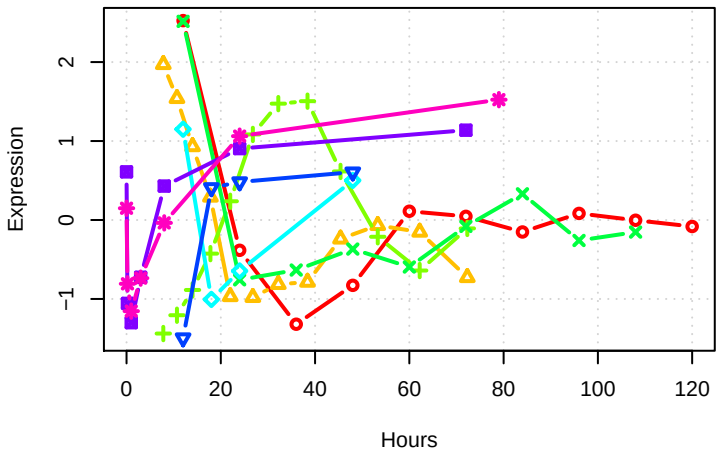
de novo biosynthesis of pyrimidine ribonucleotides



de novo biosynthesis of pyrimidine ribonucleotides

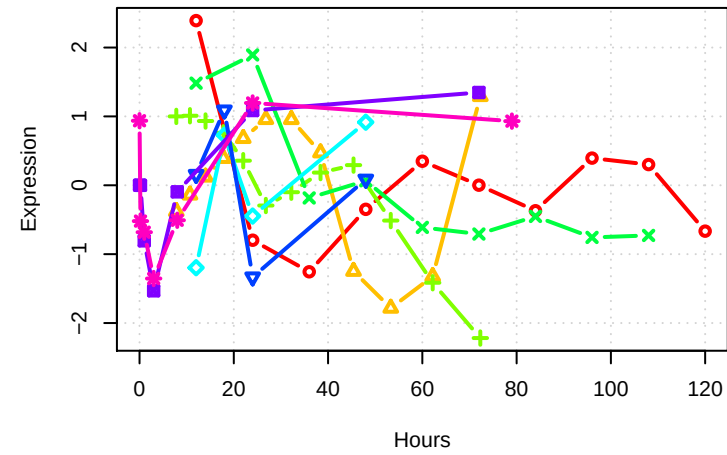
ura5 YML106W

Major orotate phosphoribosyltransferase (OPRTase) isozyme



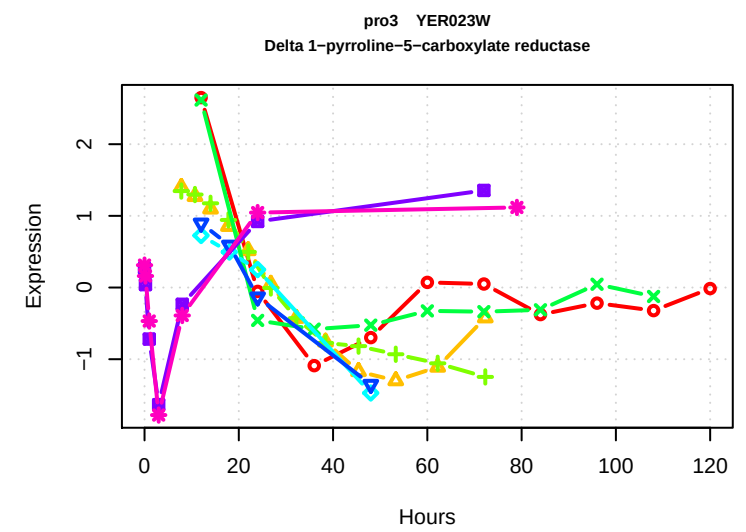
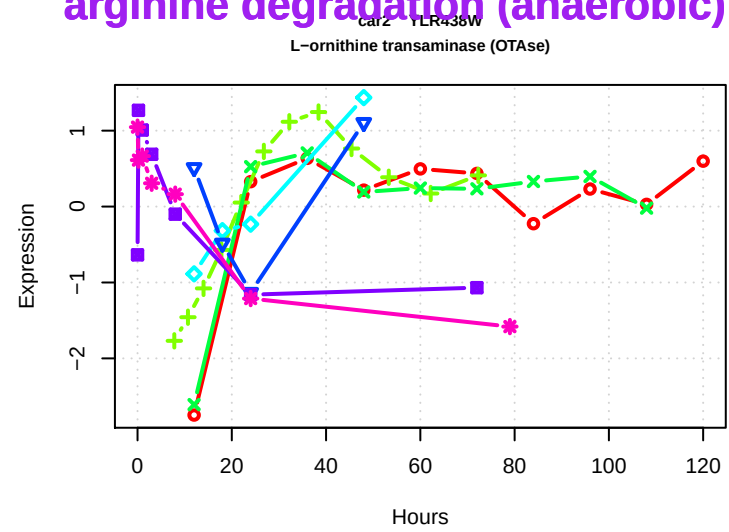
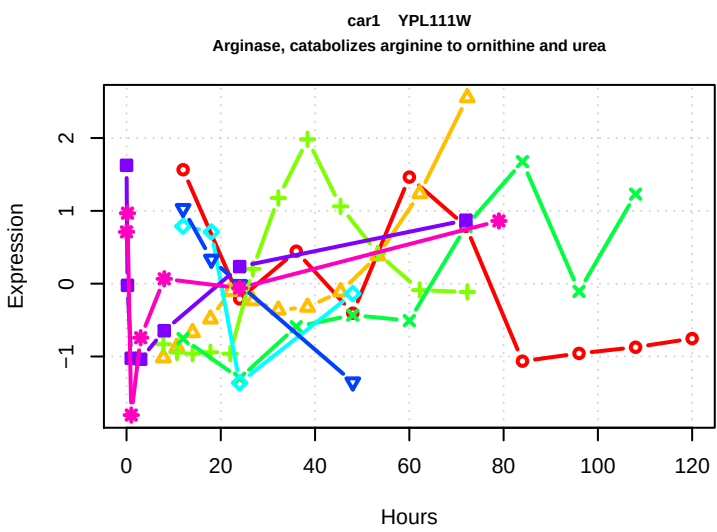
urals YEL021W

Orotidine-5'-phosphate (OMP) decarboxylase



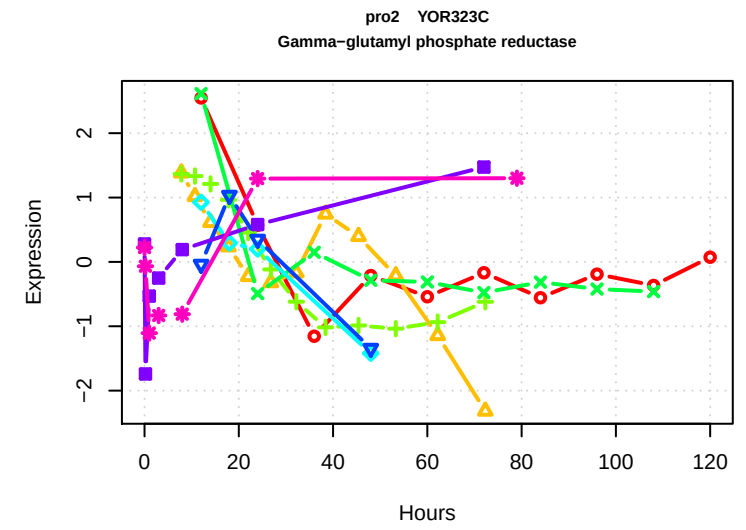
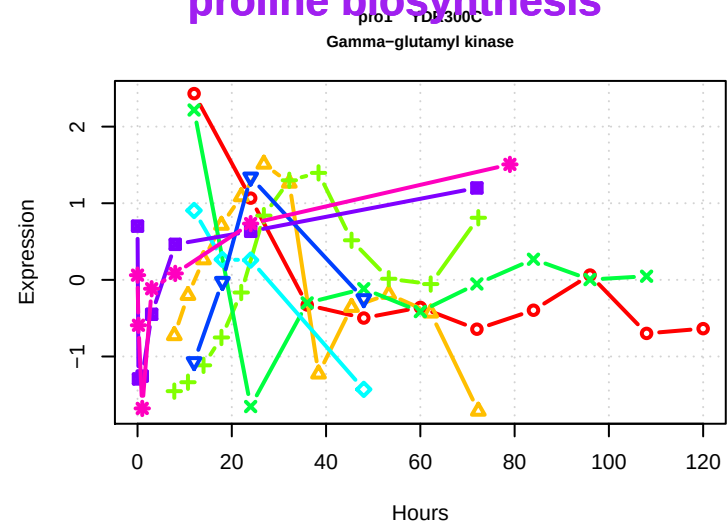
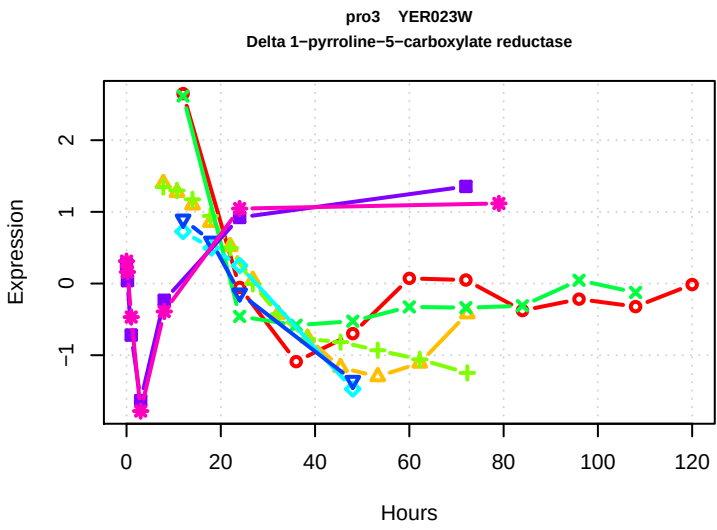
arginine degradation (anaerobic)

arginine degradation (anaerobic)



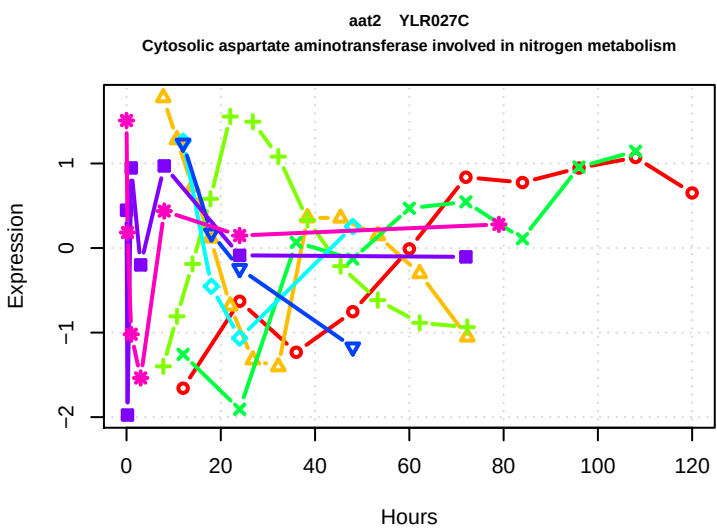
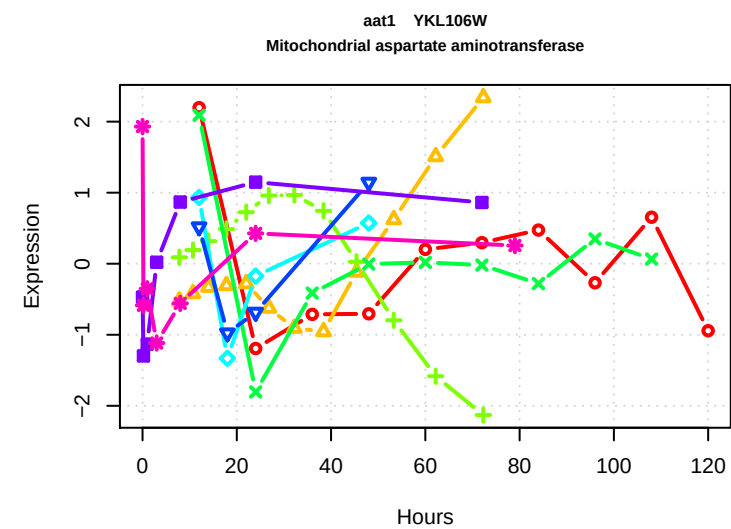
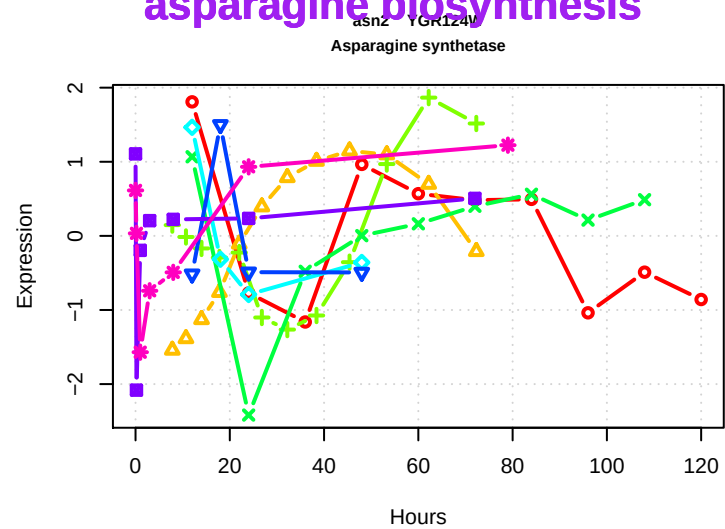
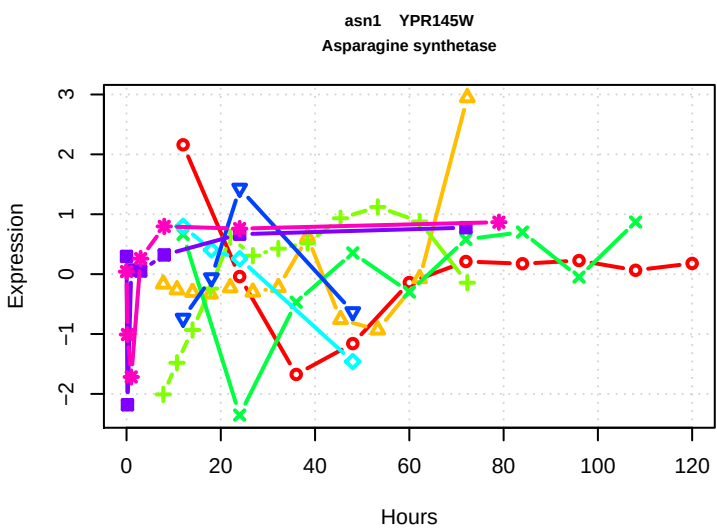
proline biosynthesis

proline biosynthesis



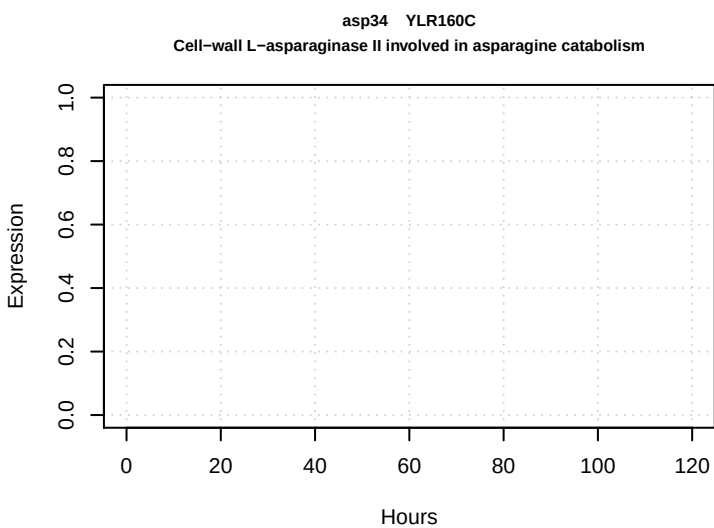
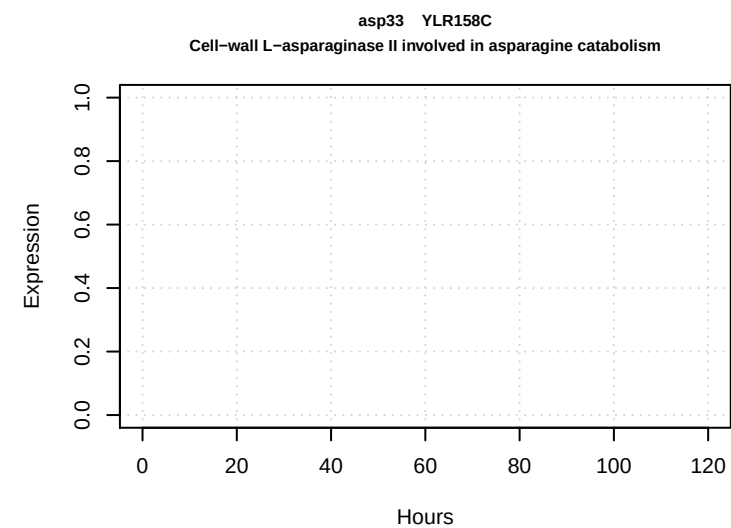
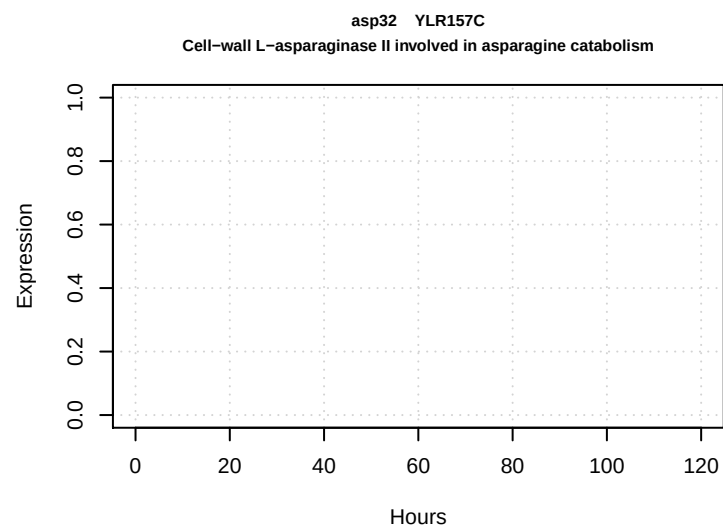
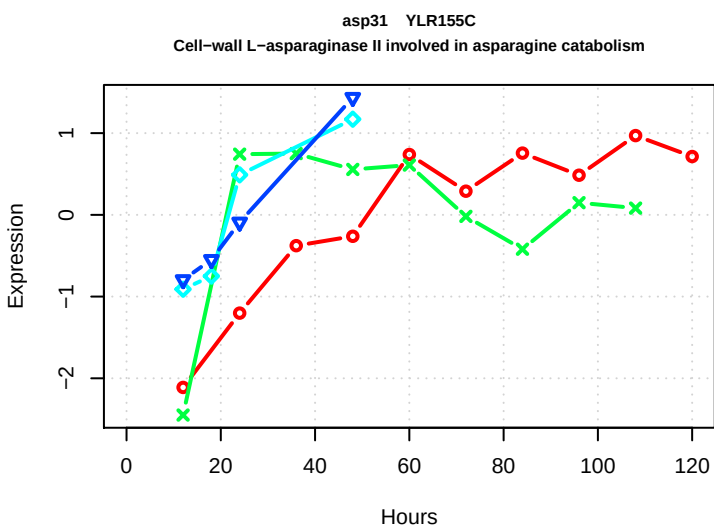
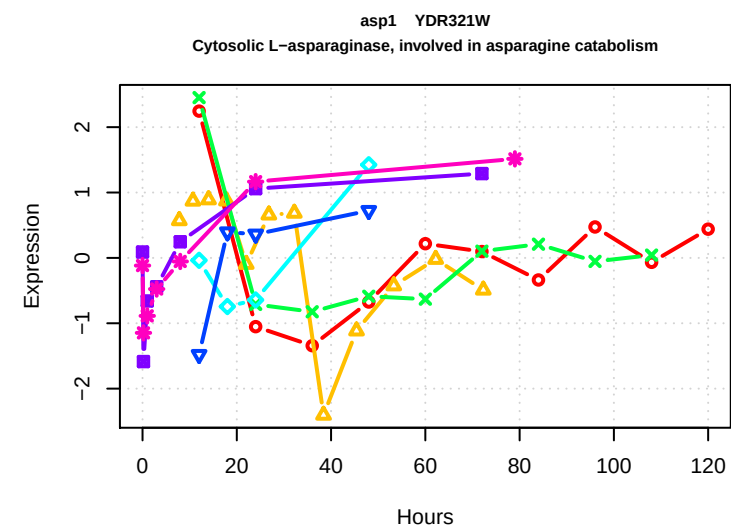
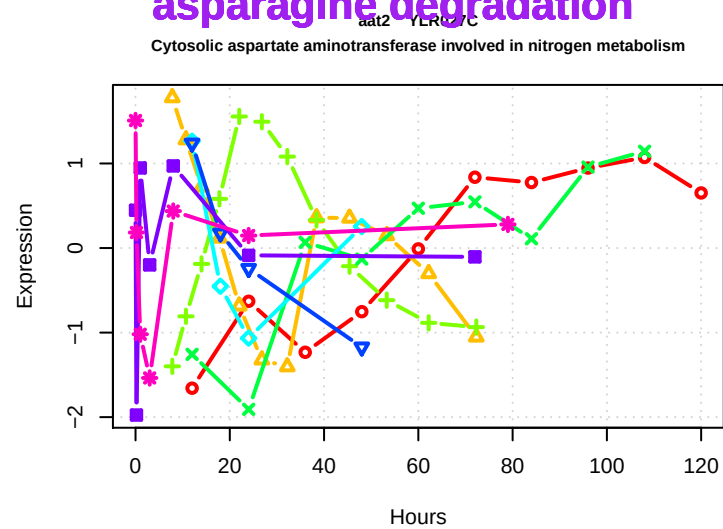
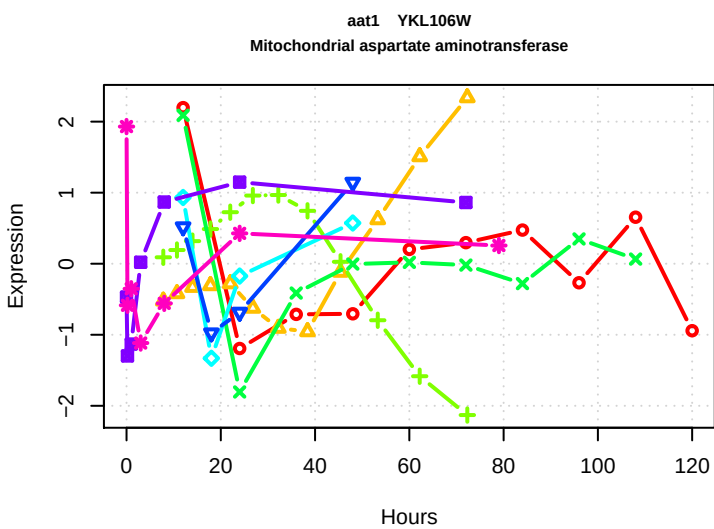
asparagine biosynthesis

asparagine biosynthesis



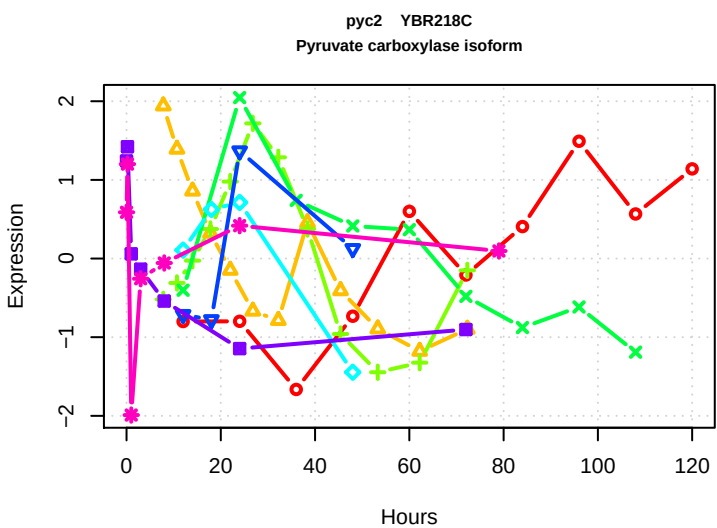
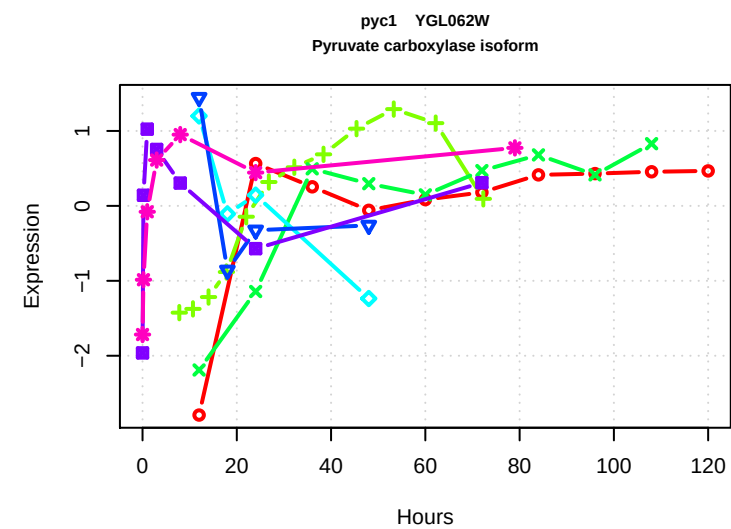
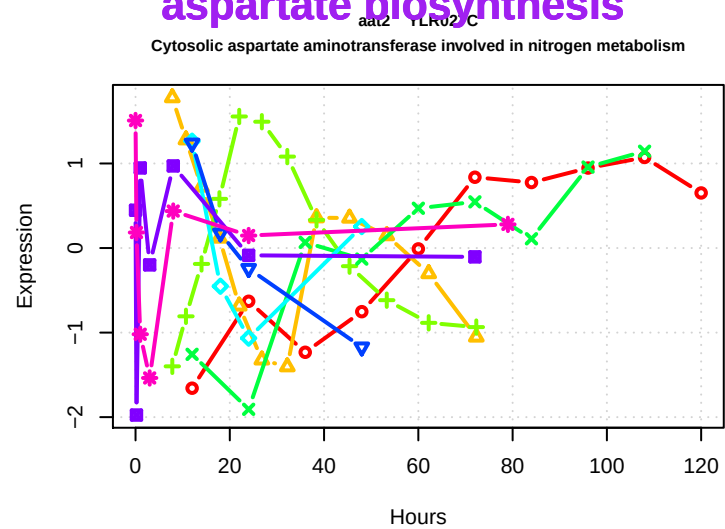
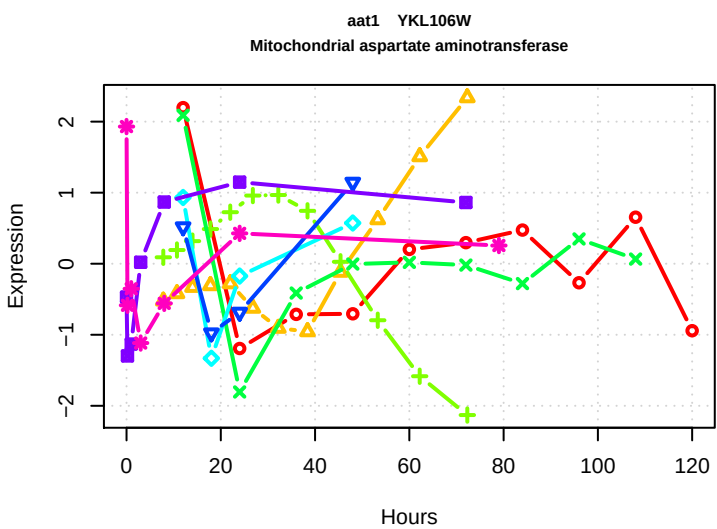
asparagine degradation

asparagine degradation



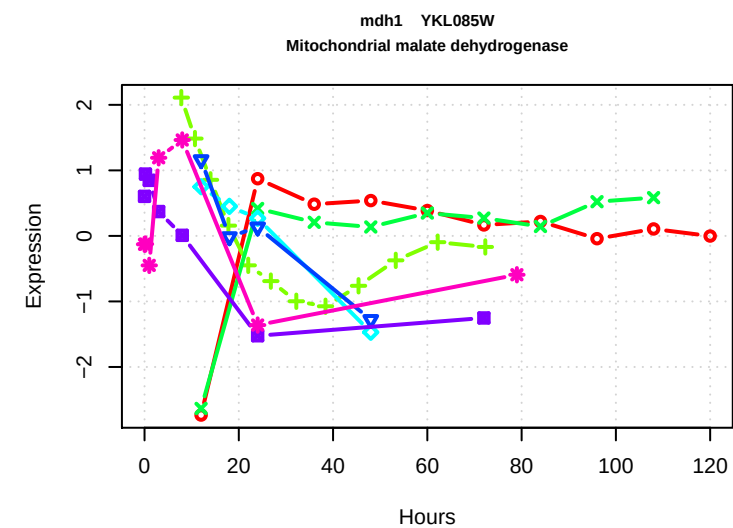
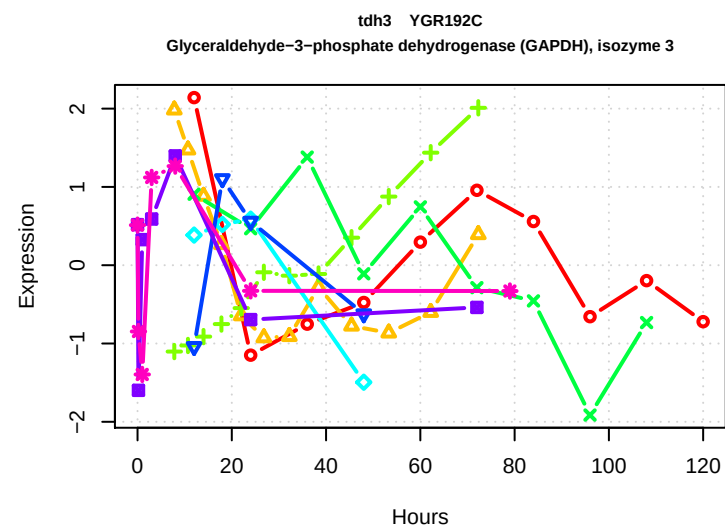
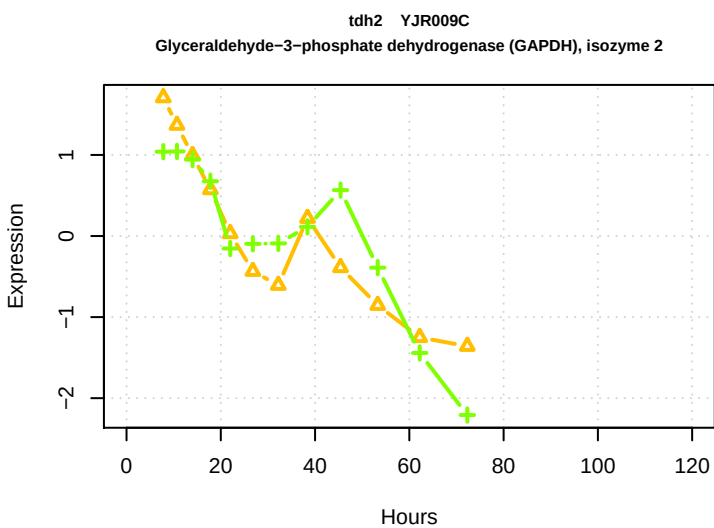
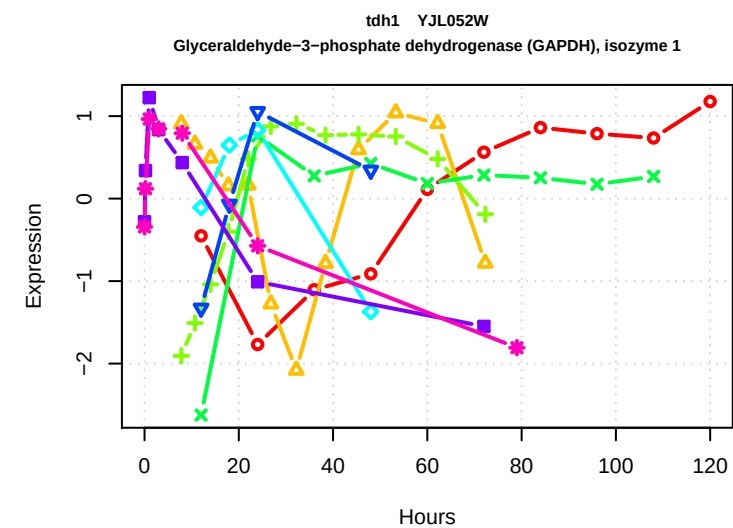
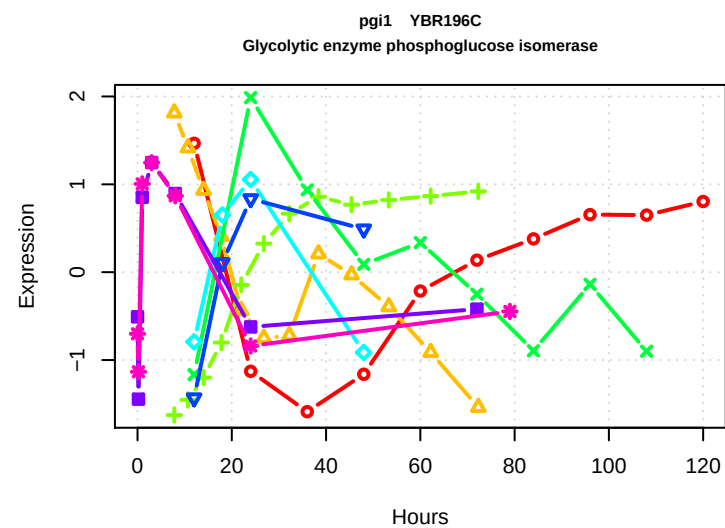
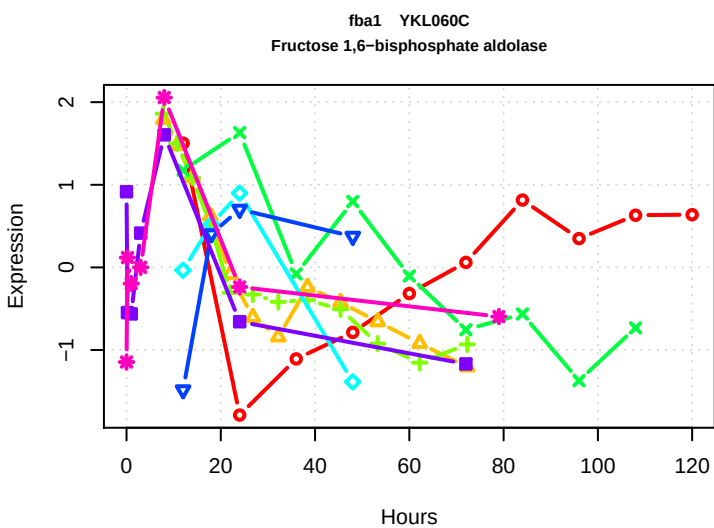
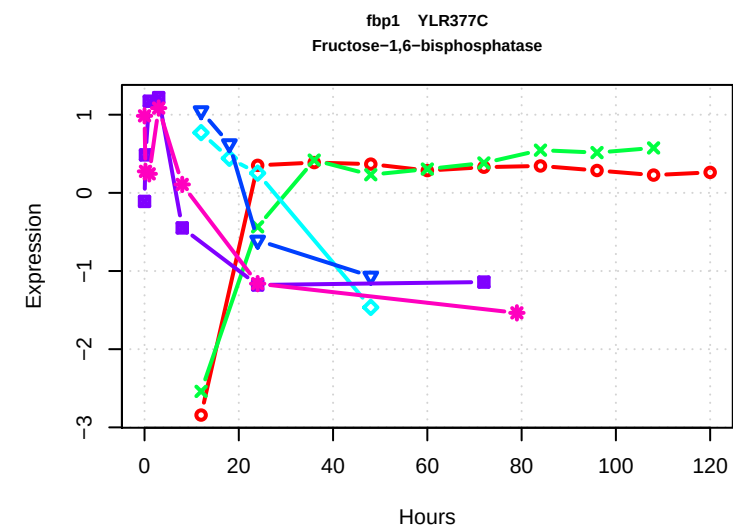
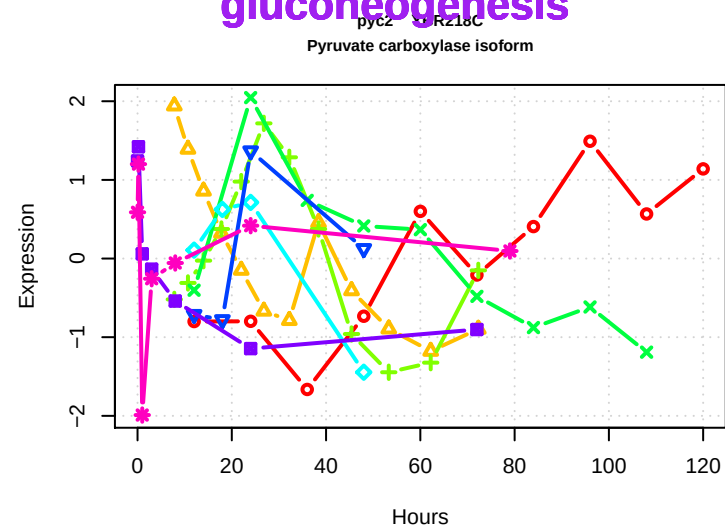
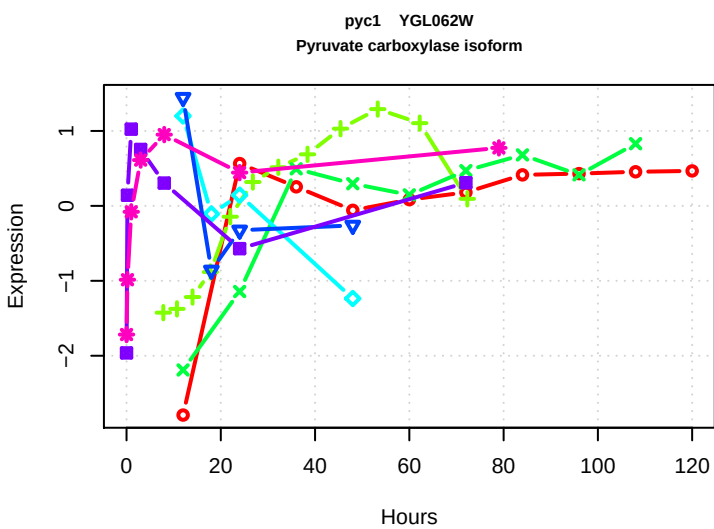
aspartate biosynthesis

aspartate biosynthesis

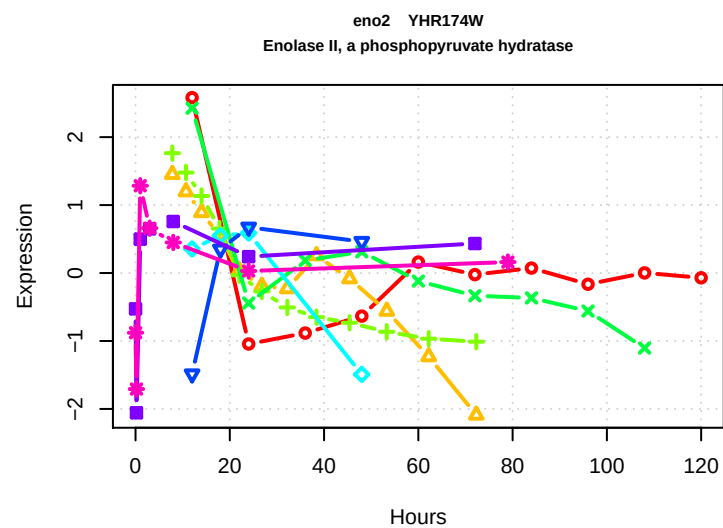
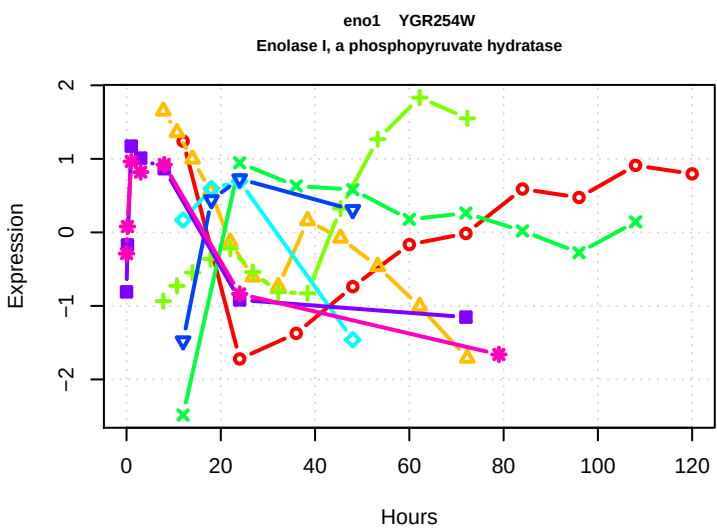
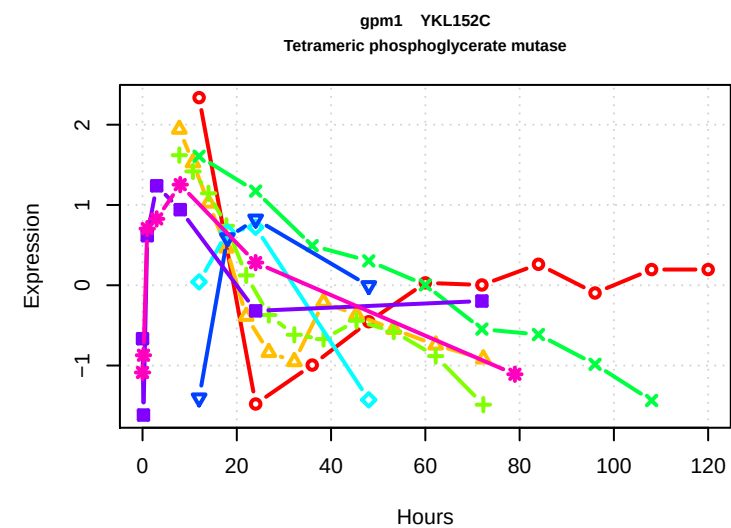
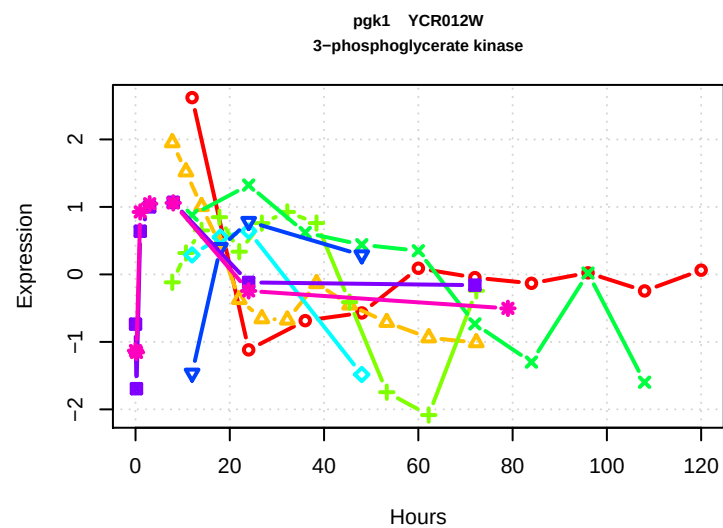
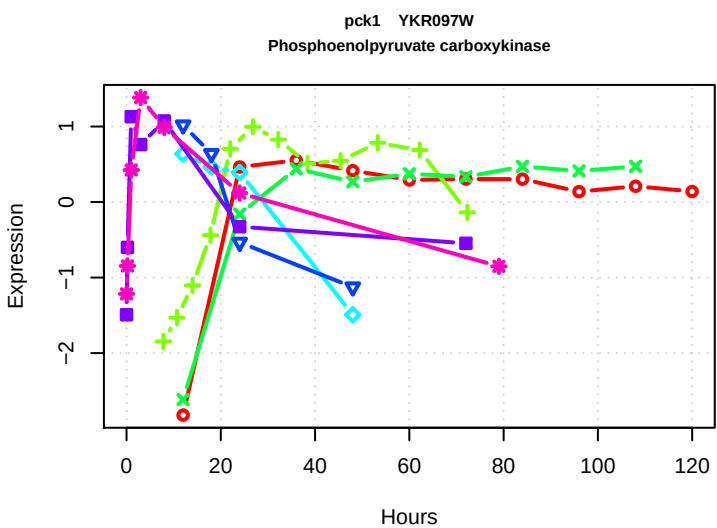
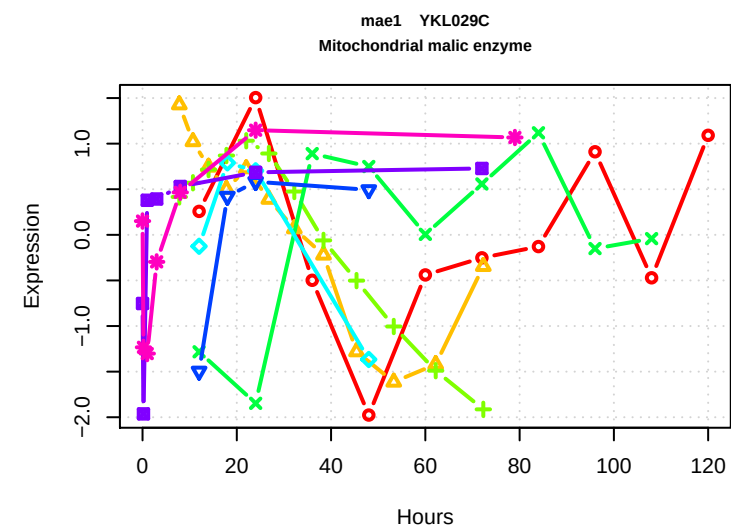
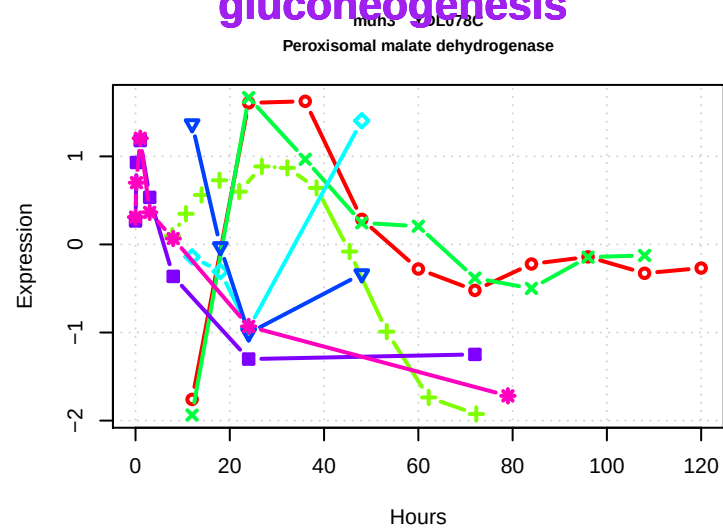
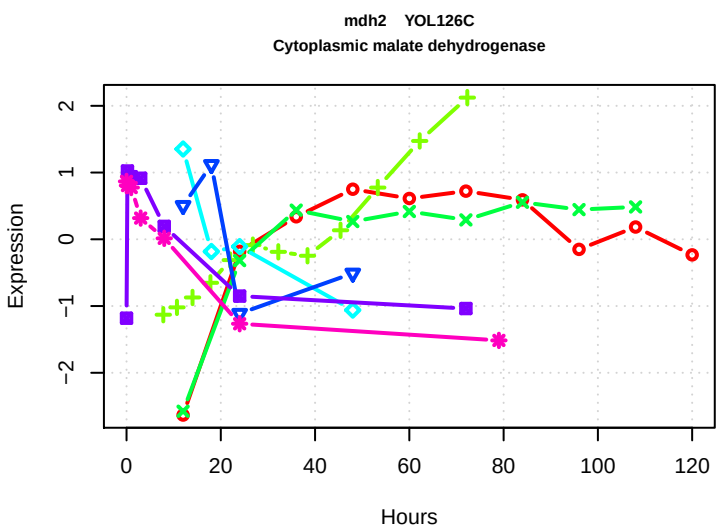


gluconeogenesis

gluconeogenesis

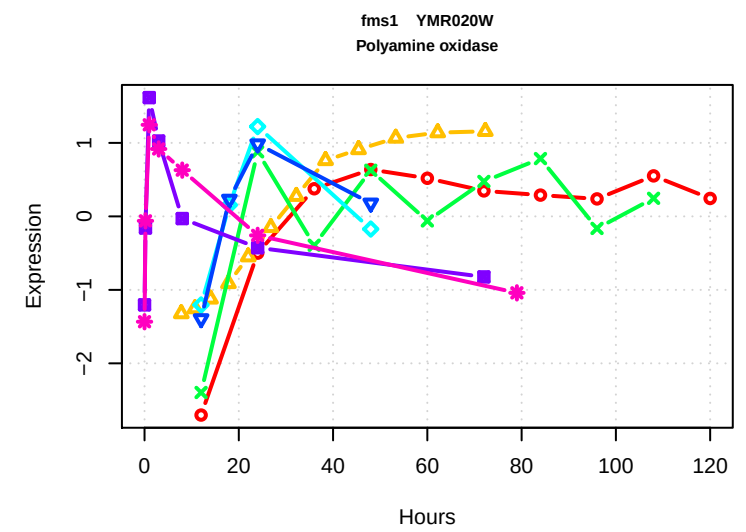
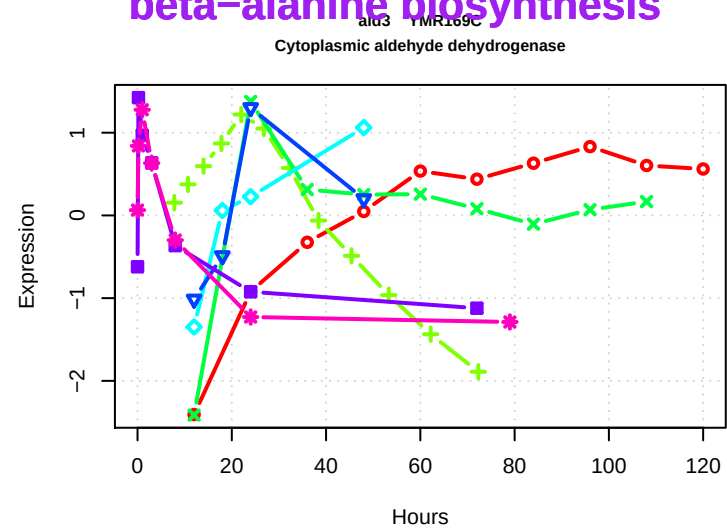
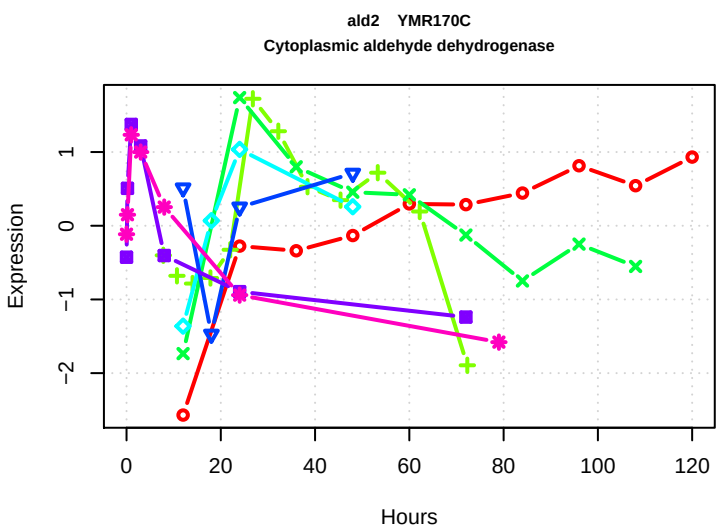


gluconeogenesis



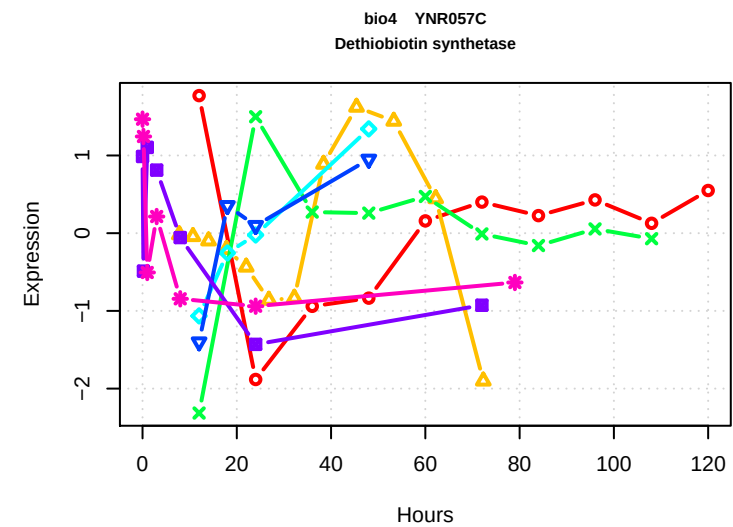
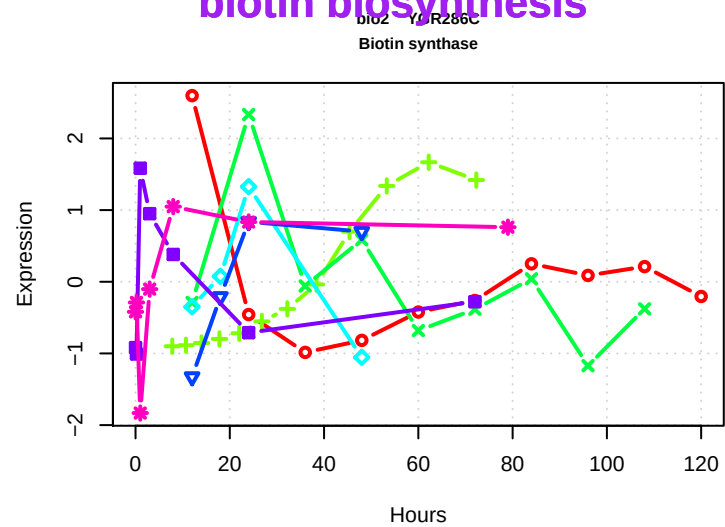
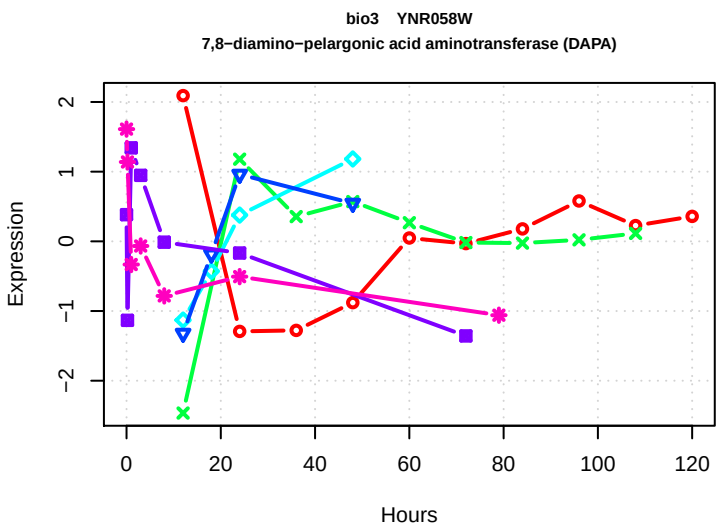
beta-alanine biosynthesis

beta-alanine biosynthesis

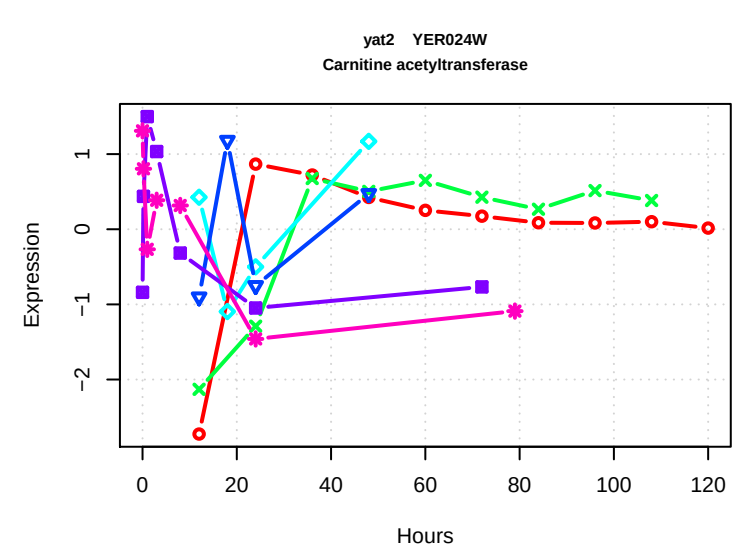
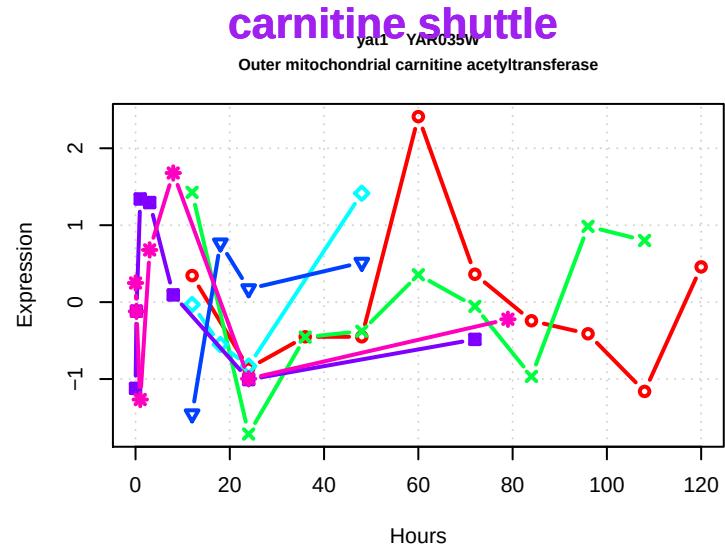
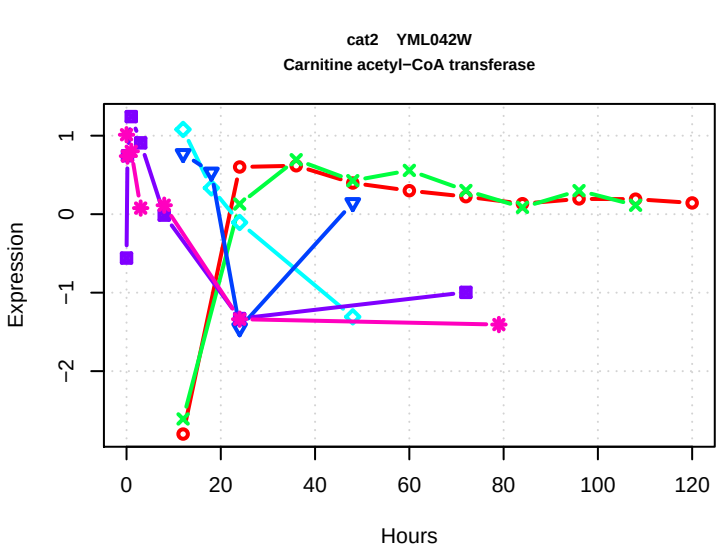


biotin biosynthesis

biotin biosynthesis

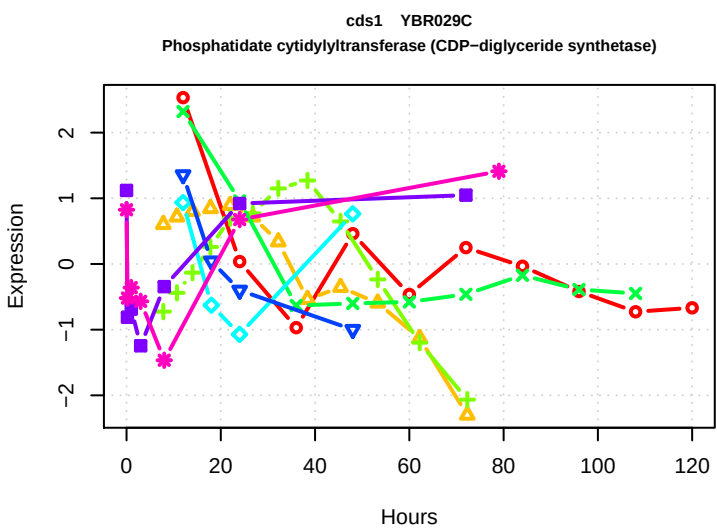


carnitine shuttle



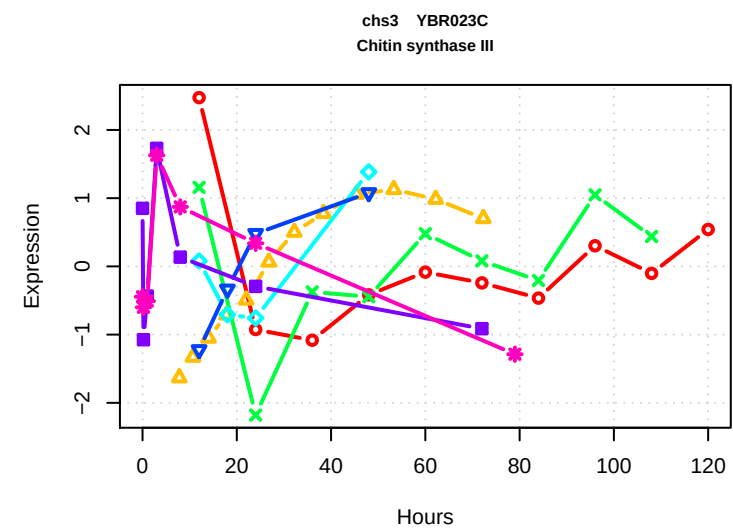
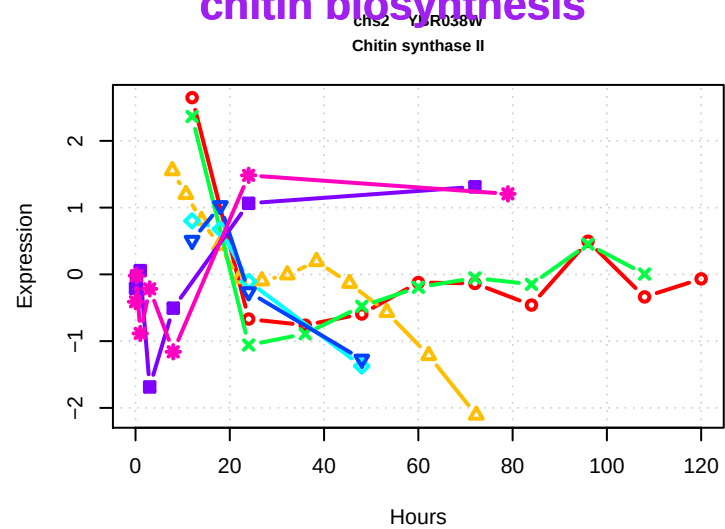
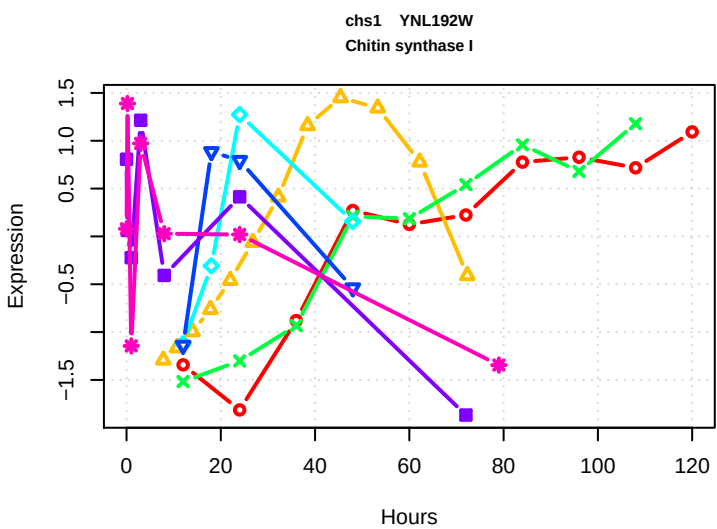
CDP–diacylglycerol biosynthesis

CDP-diacylglycerol biosynthesis

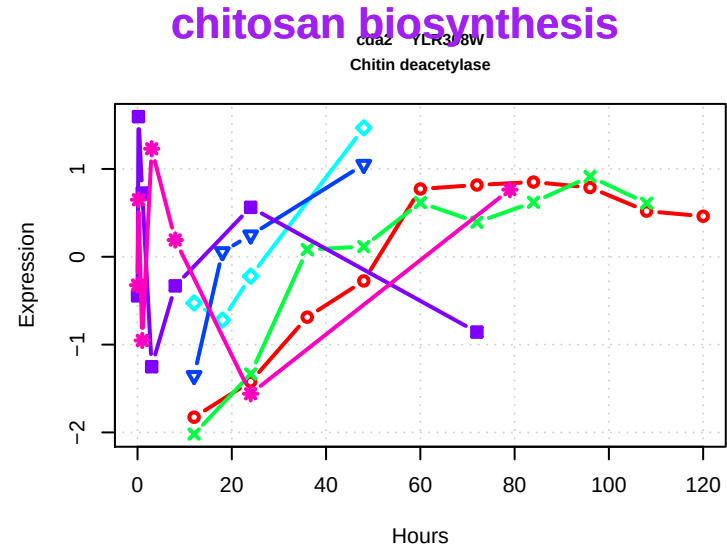
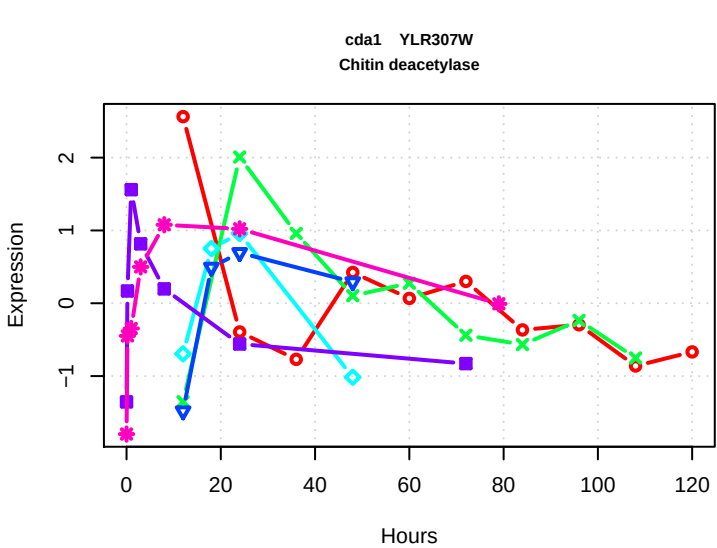


chitin biosynthesis

chitin biosynthesis

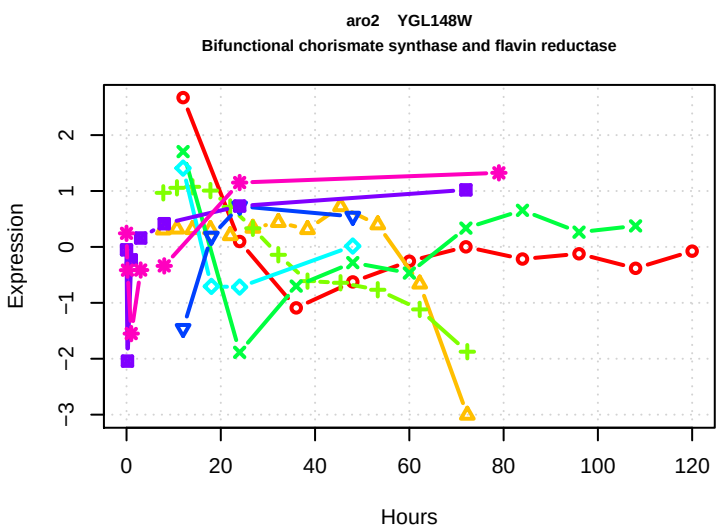
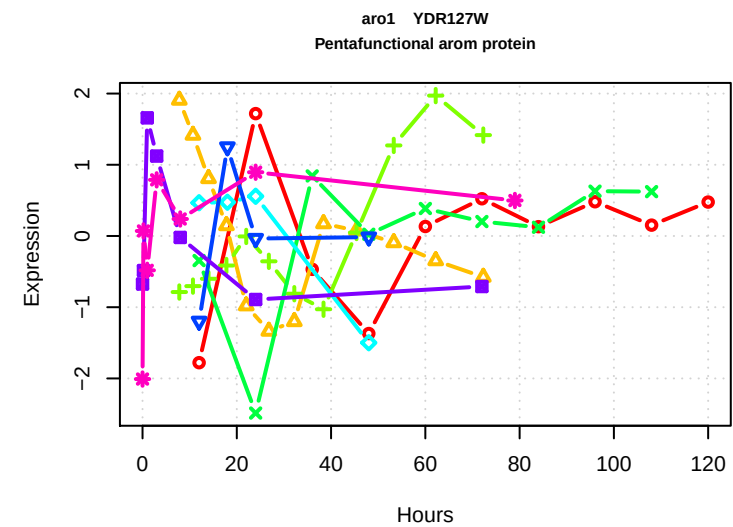
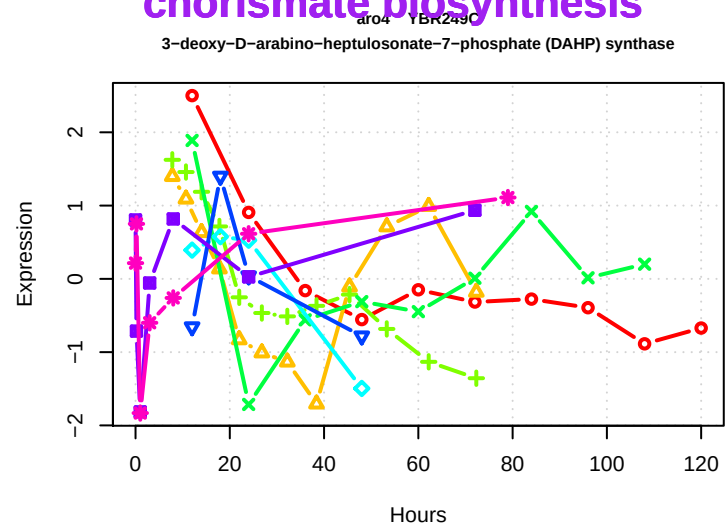
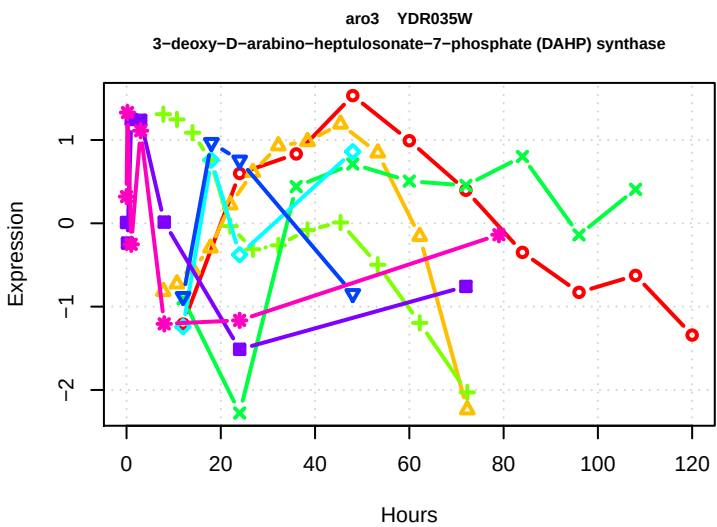


chitosan biosynthesis



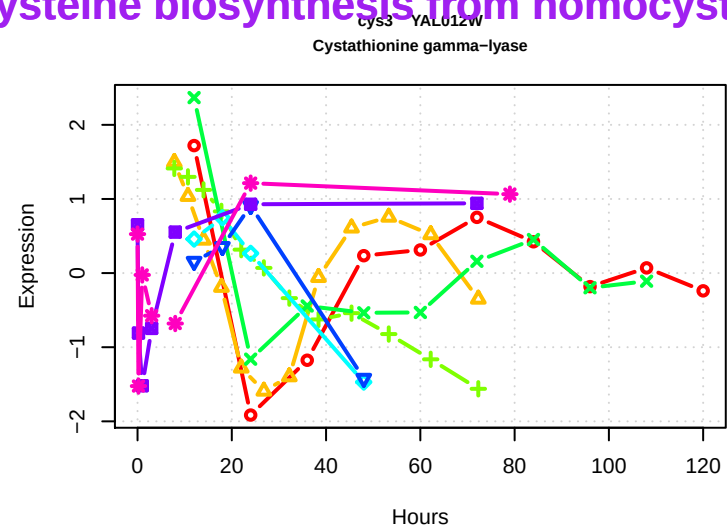
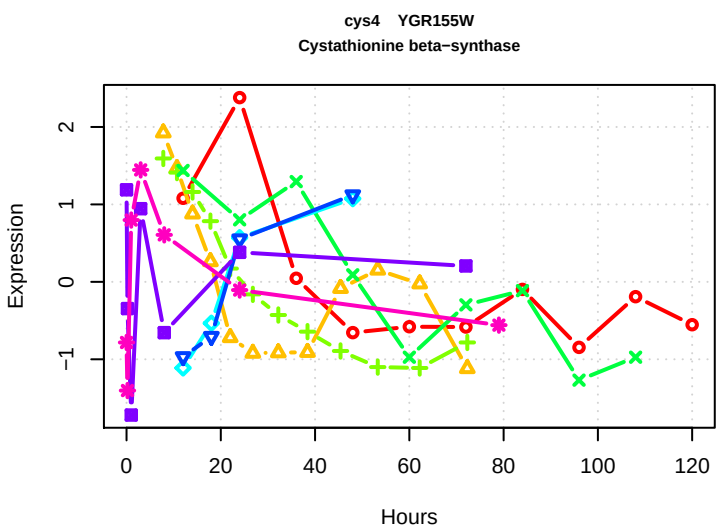
chorismate biosynthesis

chorismate biosynthesis



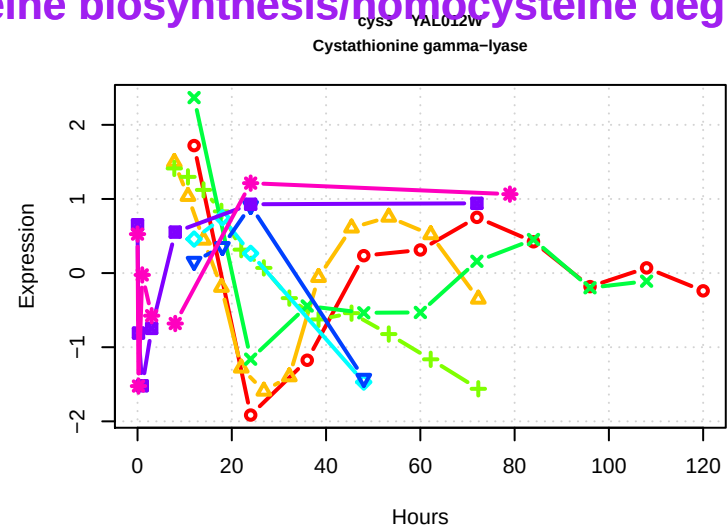
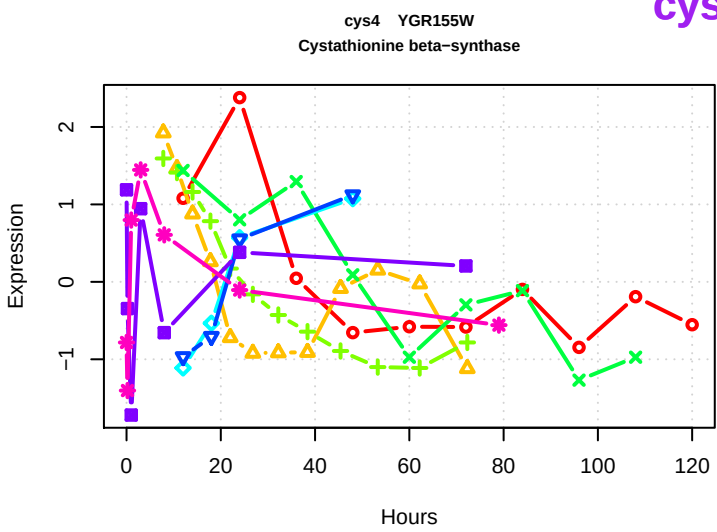
cysteine biosynthesis from homocysteine

cysteine biosynthesis from homocysteine



cysteine biosynthesis/homocysteine degradation

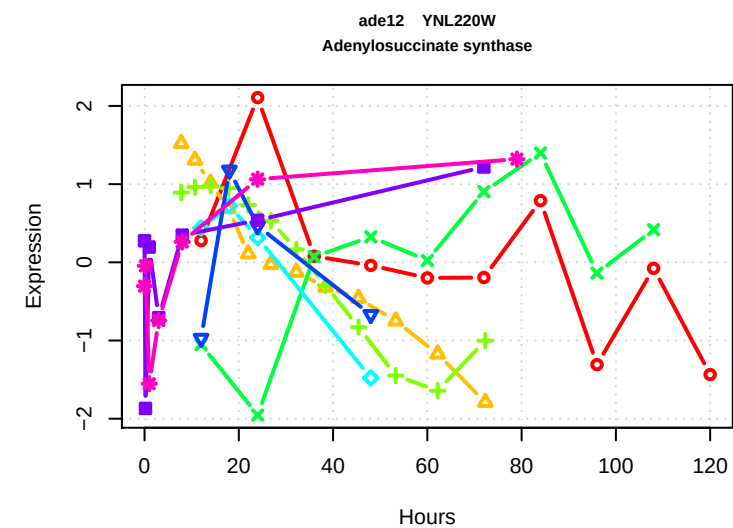
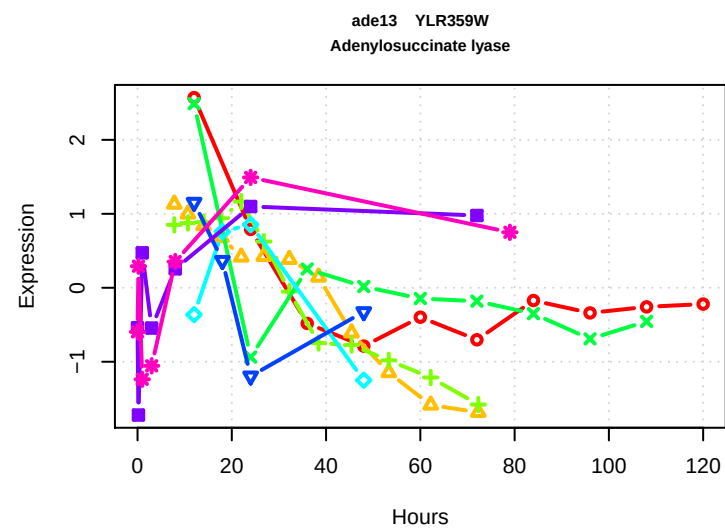
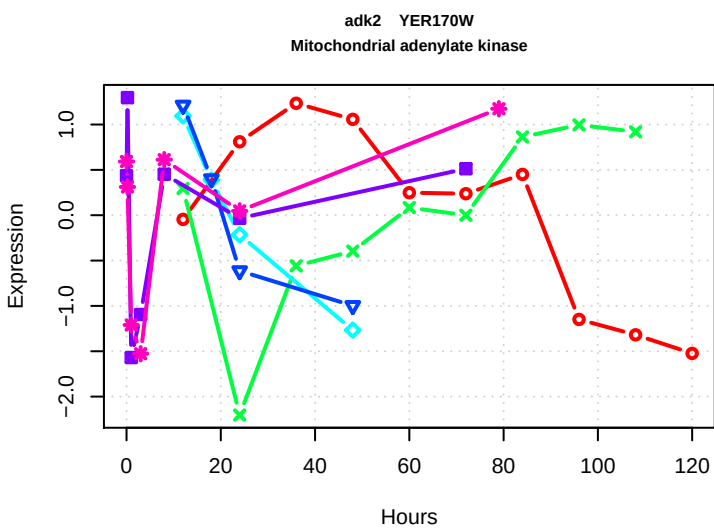
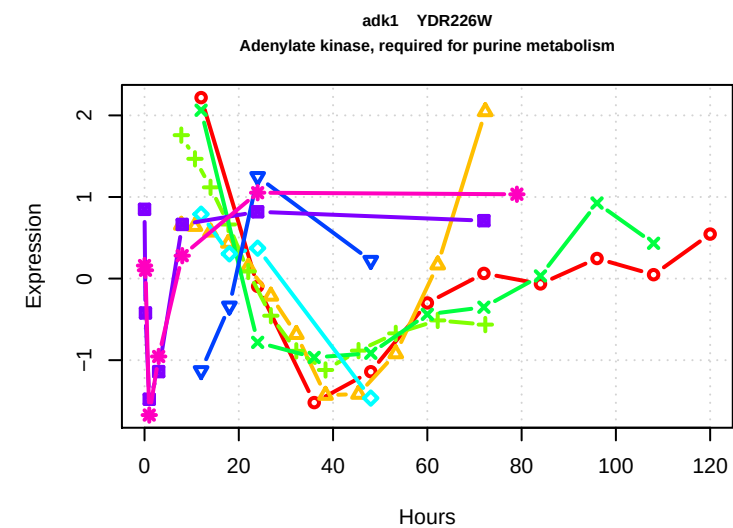
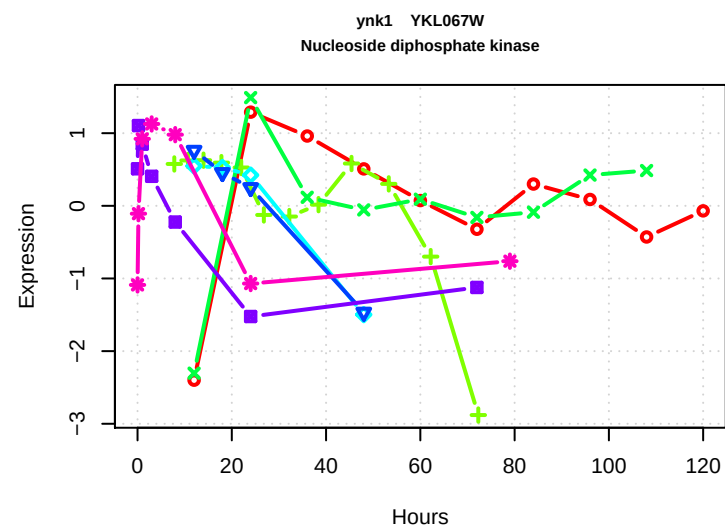
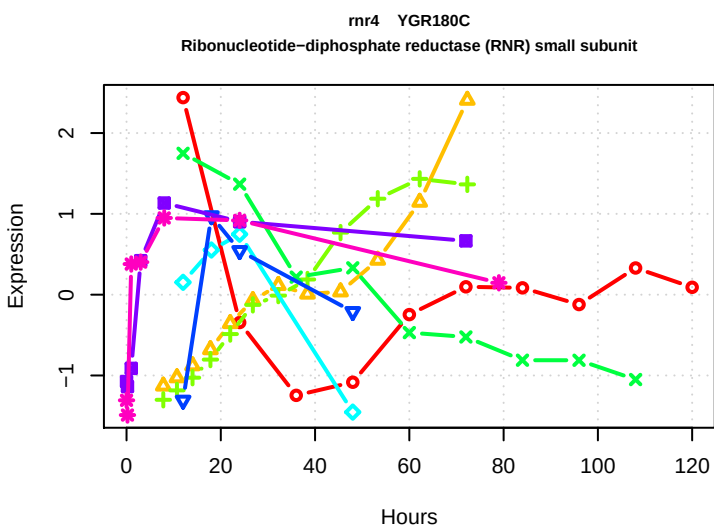
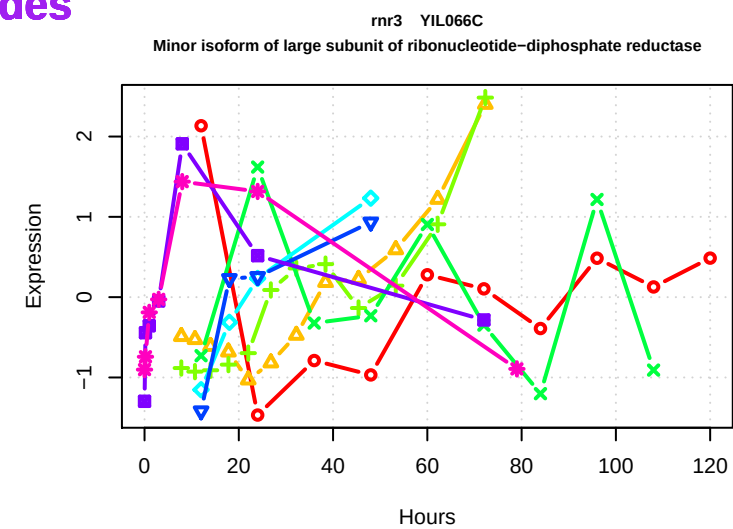
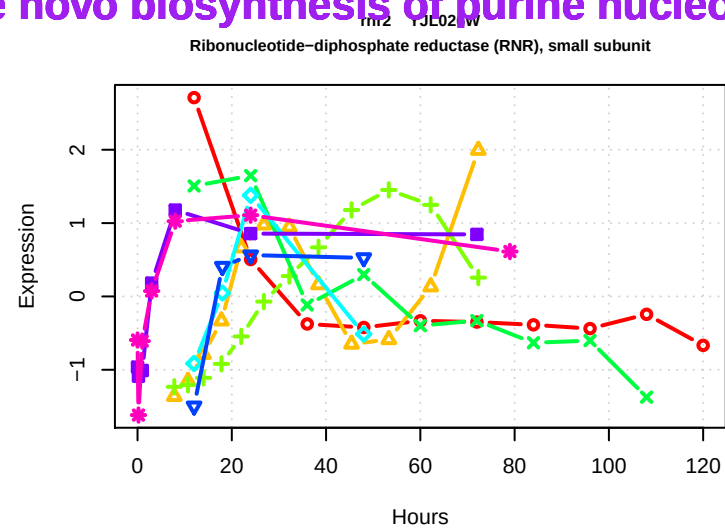
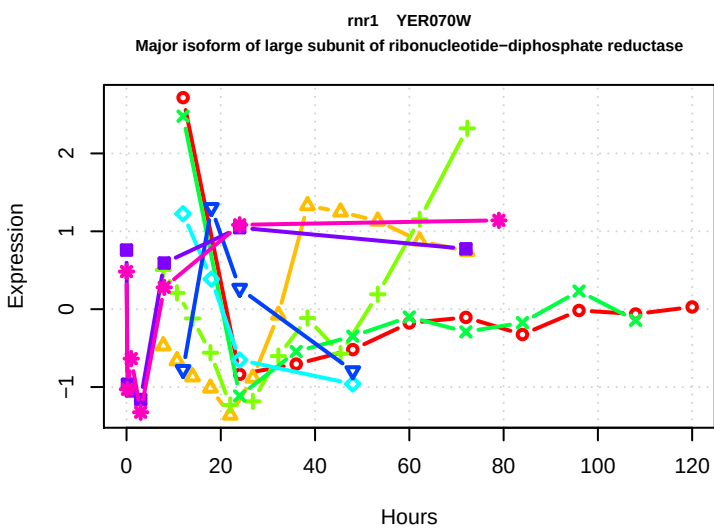
cysteine biosynthesis/homocysteine degradation



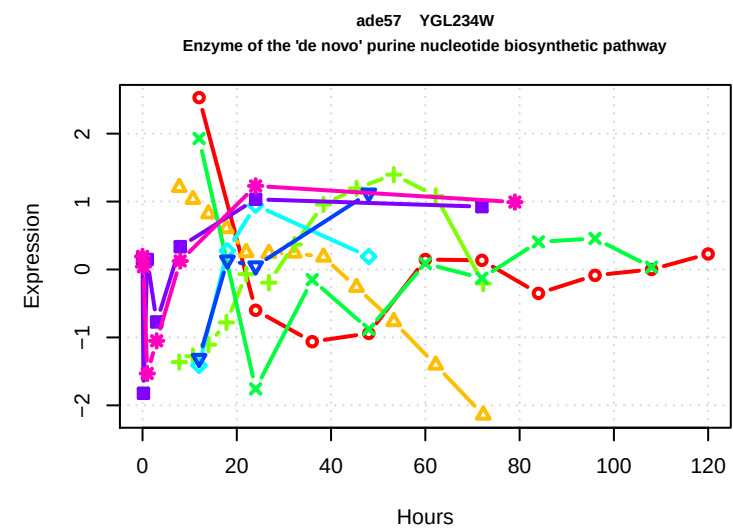
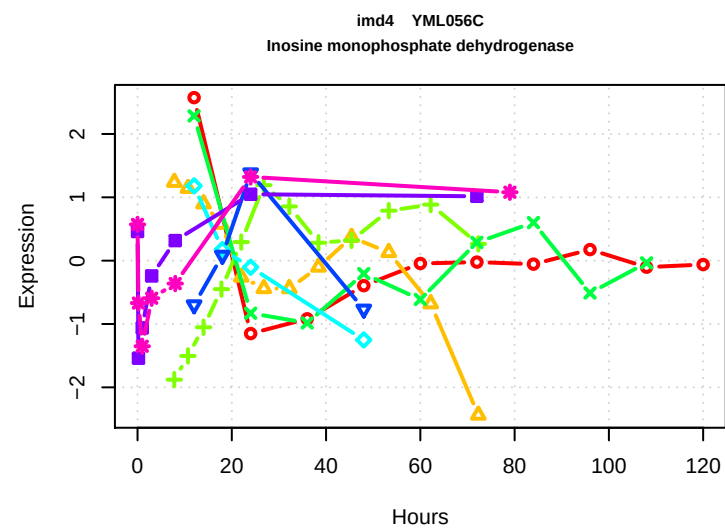
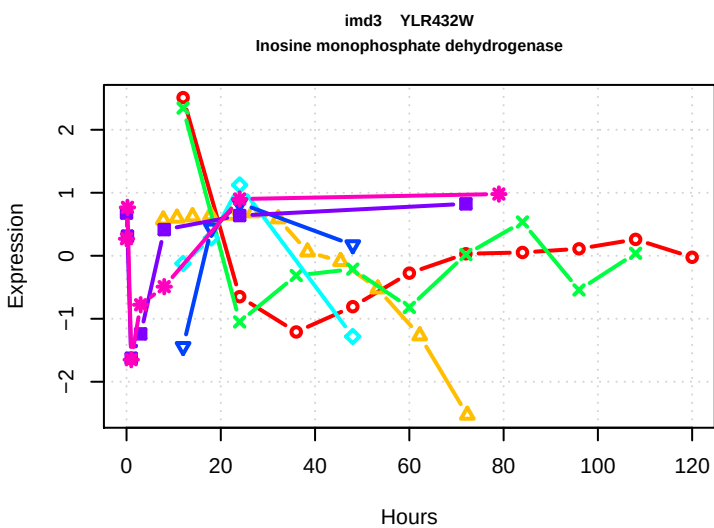
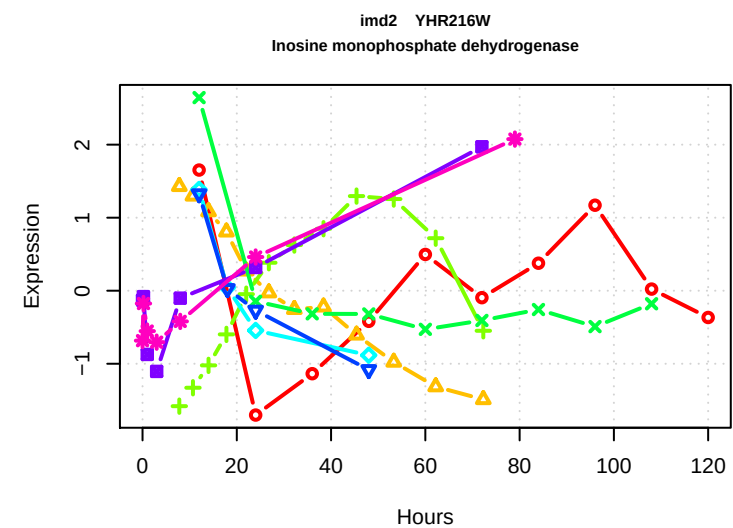
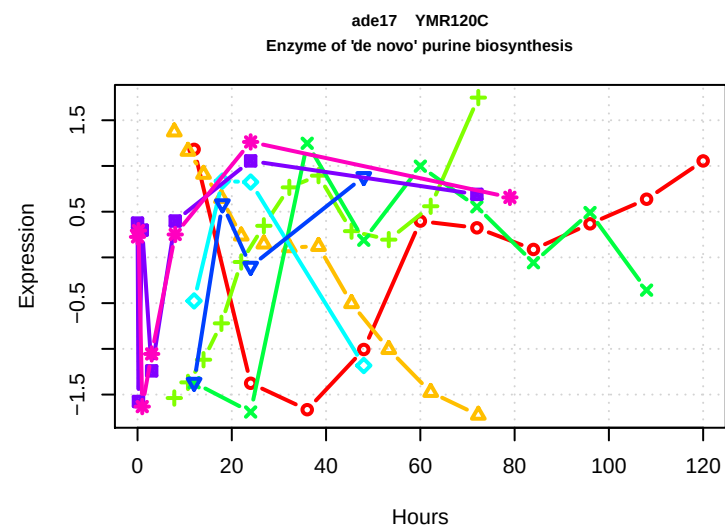
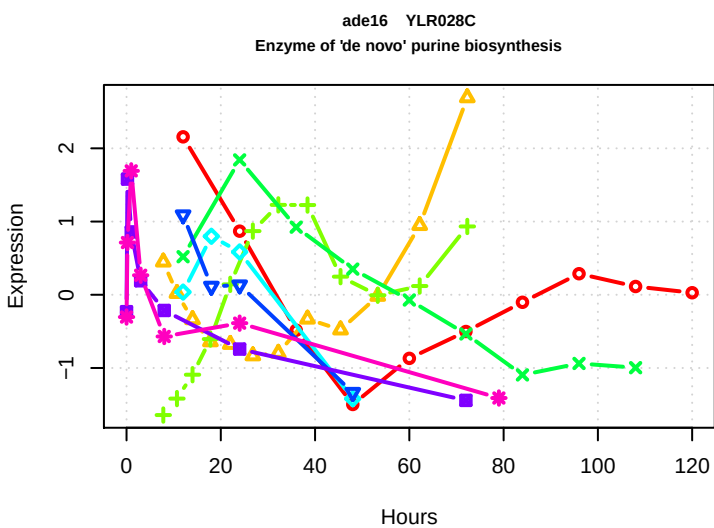
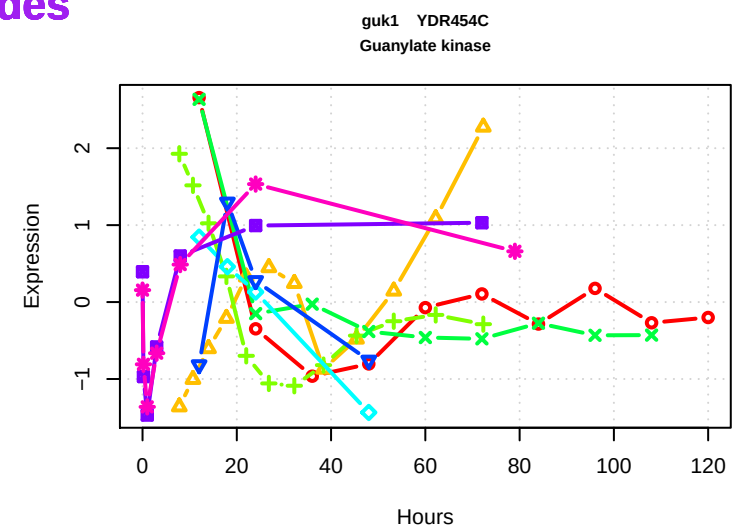
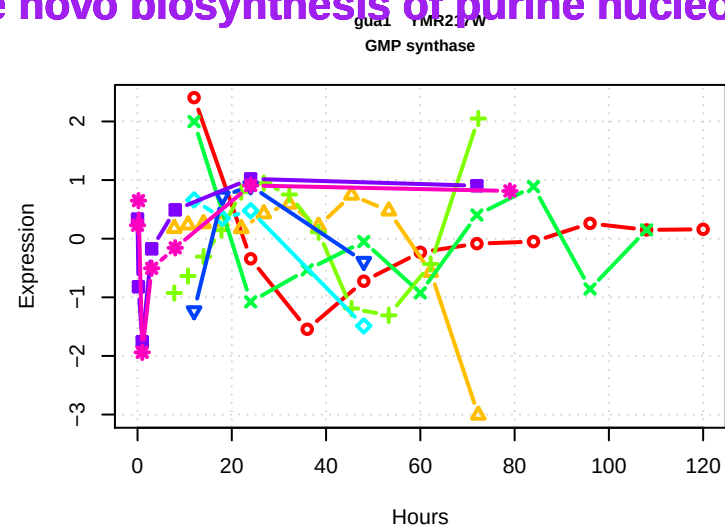
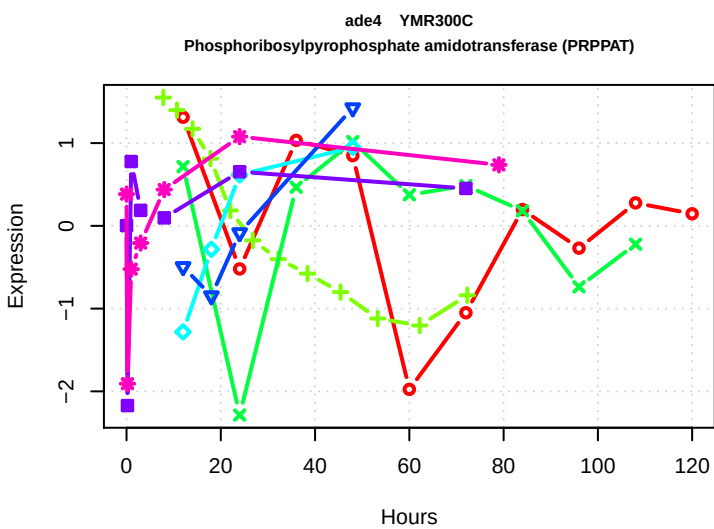
threonine degradation

de novo biosynthesis of purine nucleotides

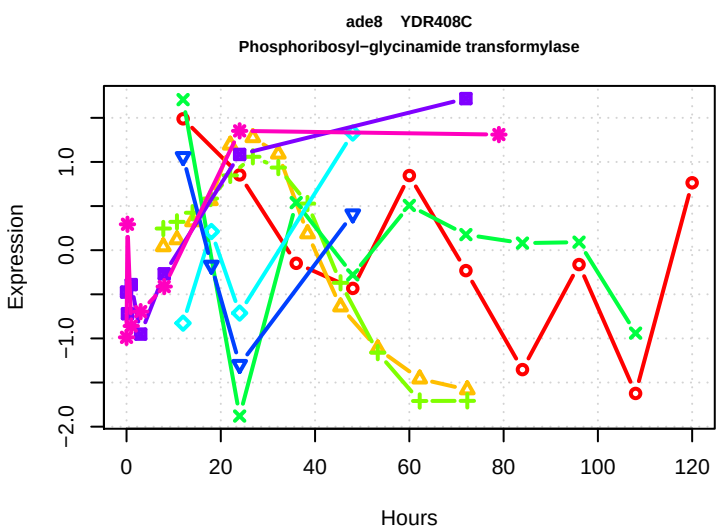
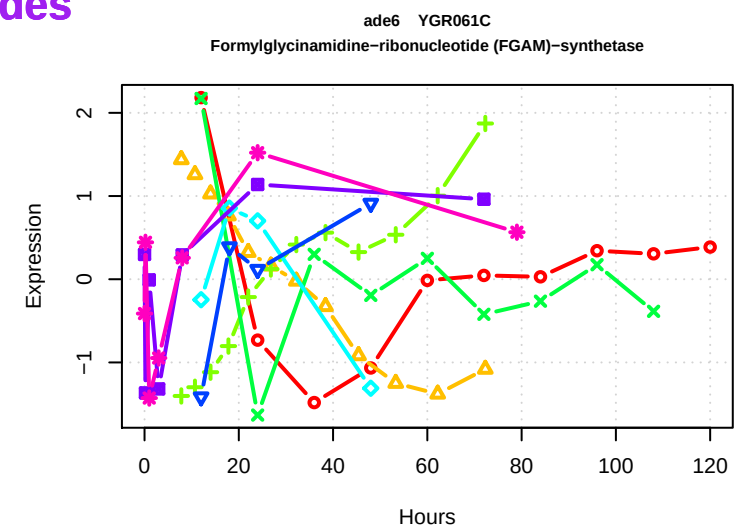
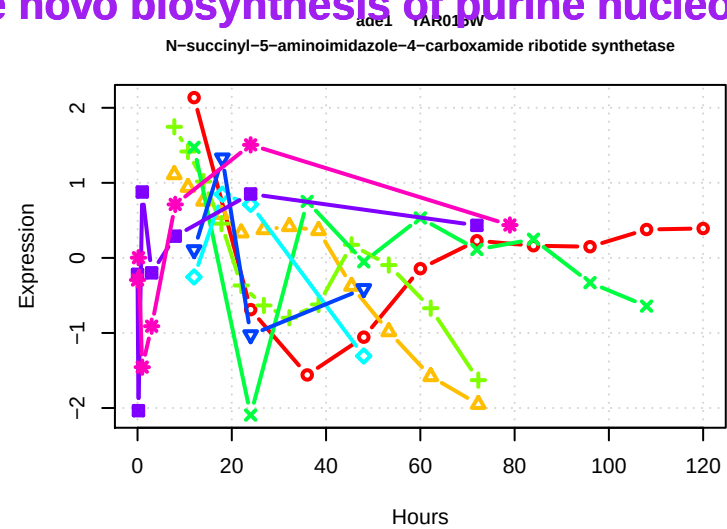
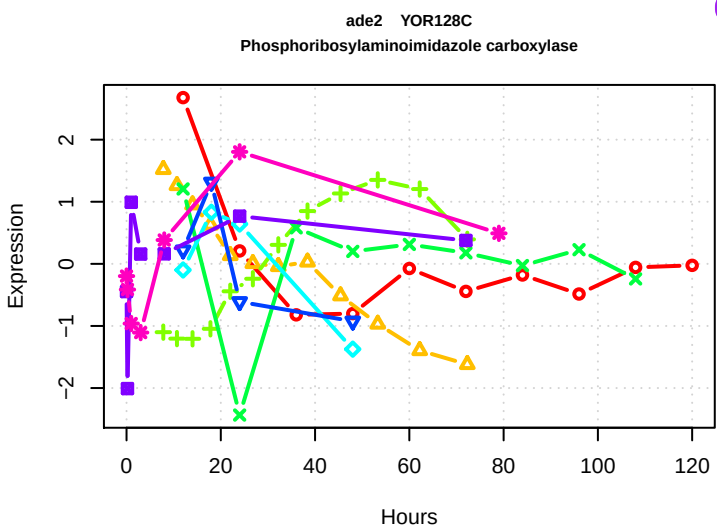
de novo biosynthesis of purine nucleotides



de novo biosynthesis of purine nucleotides

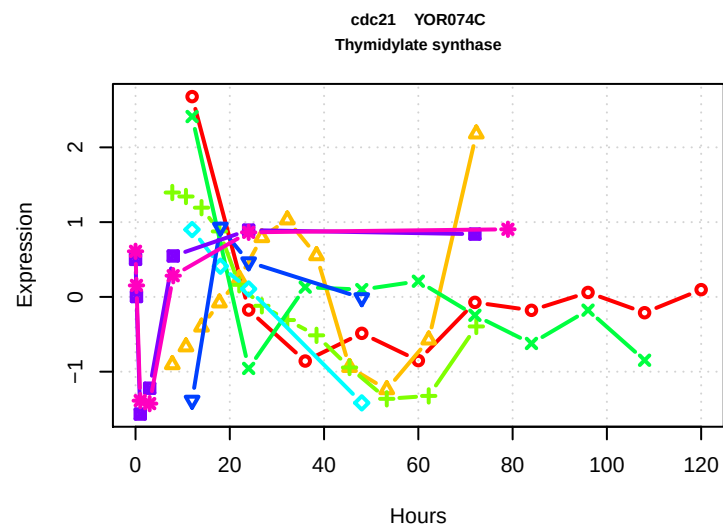
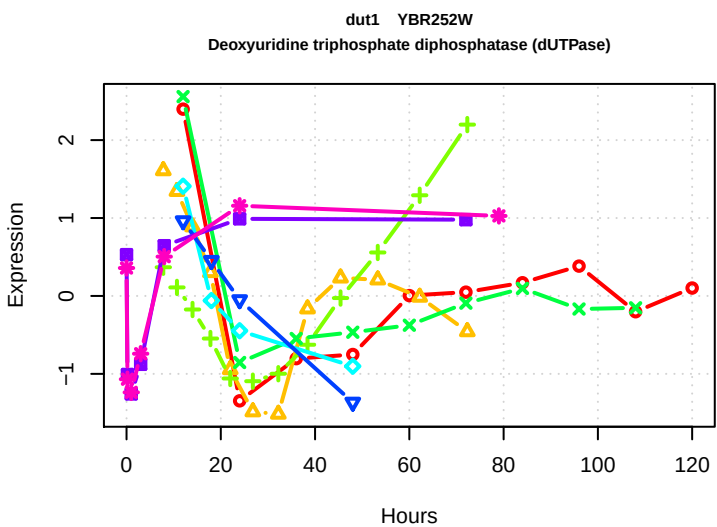
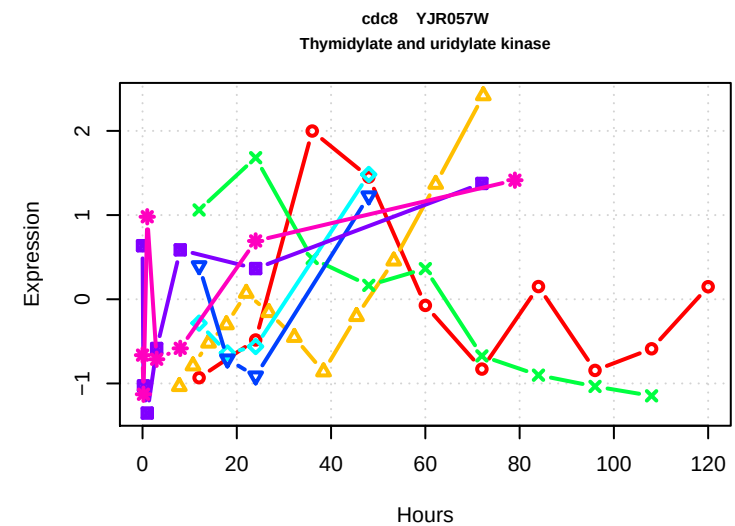
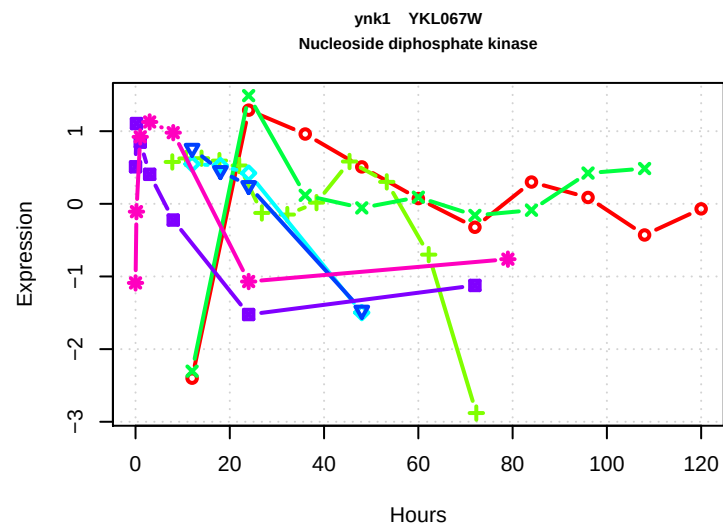
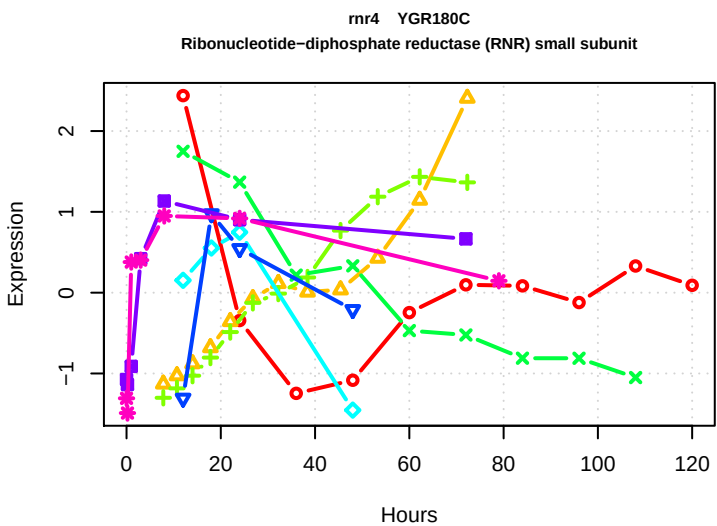
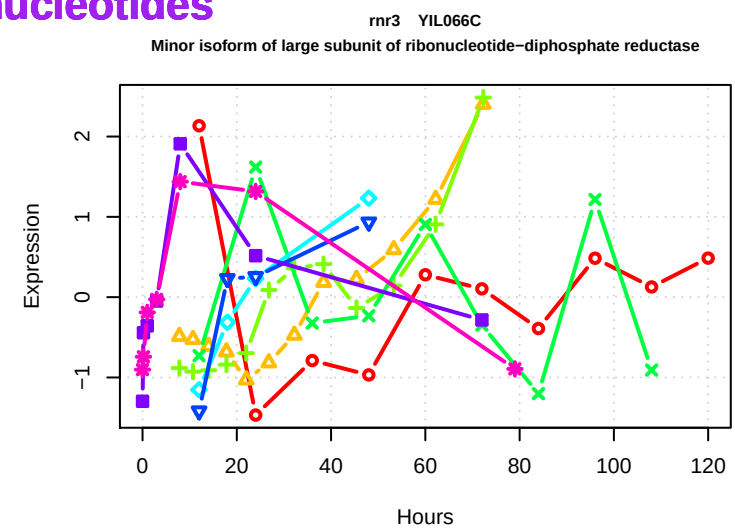
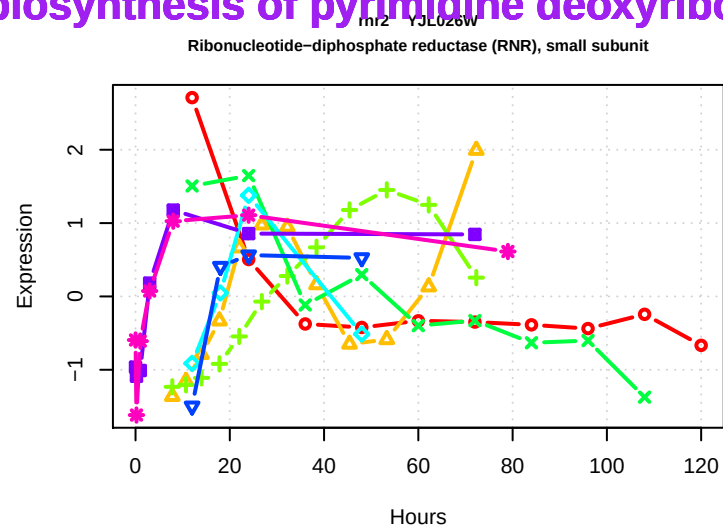
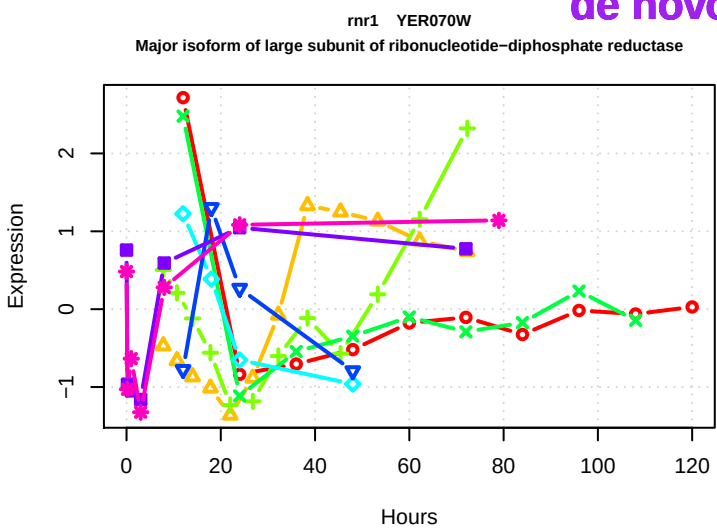


de novo biosynthesis of purine nucleotides



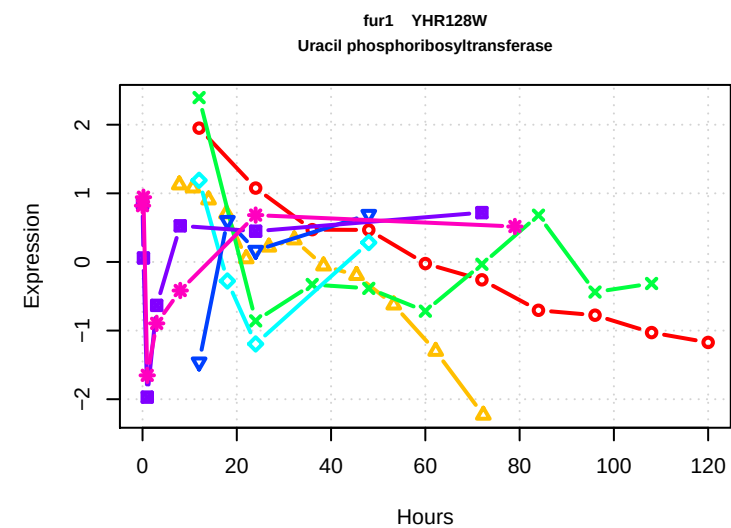
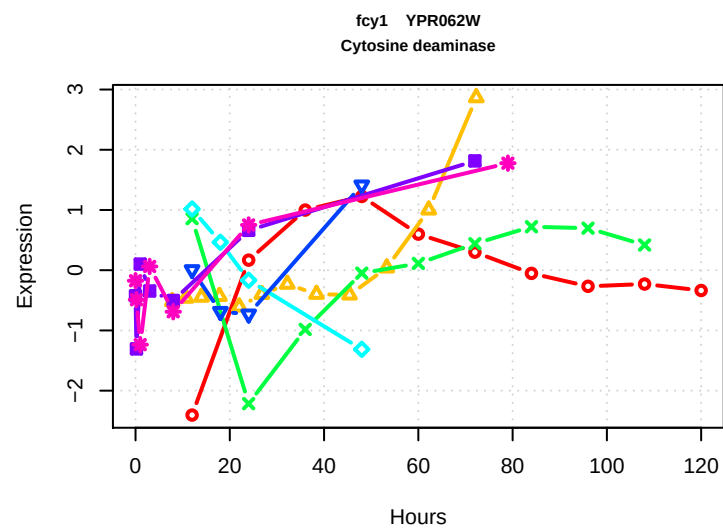
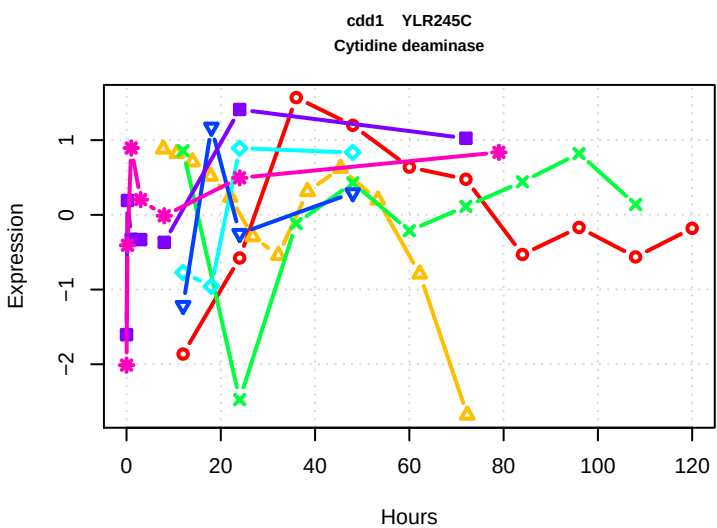
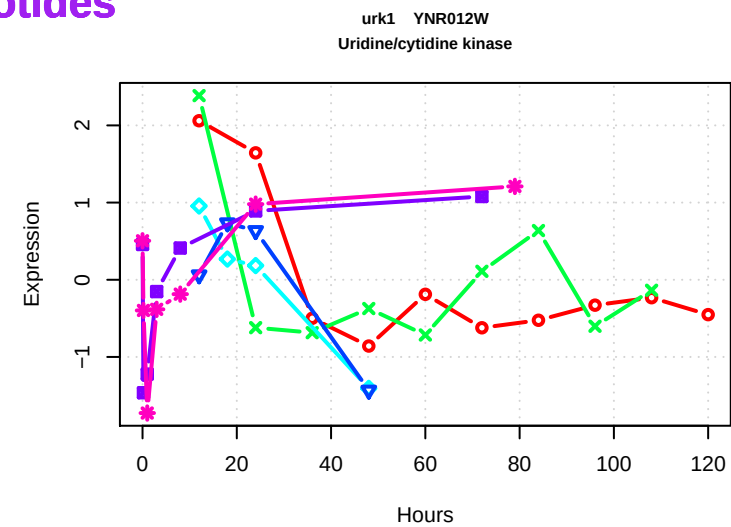
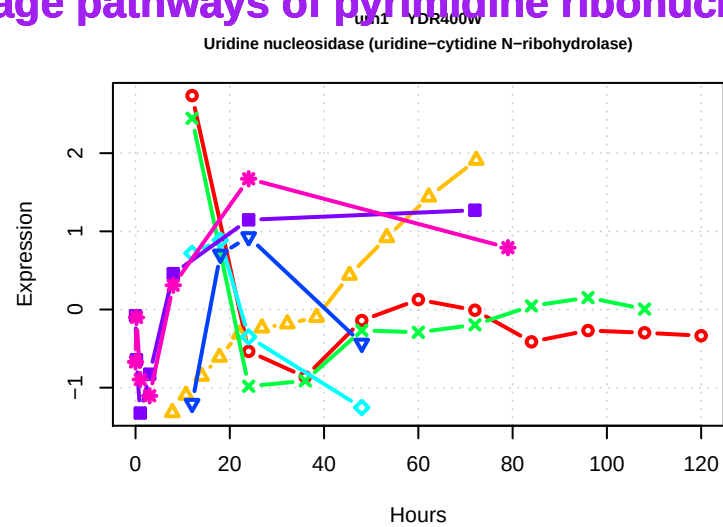
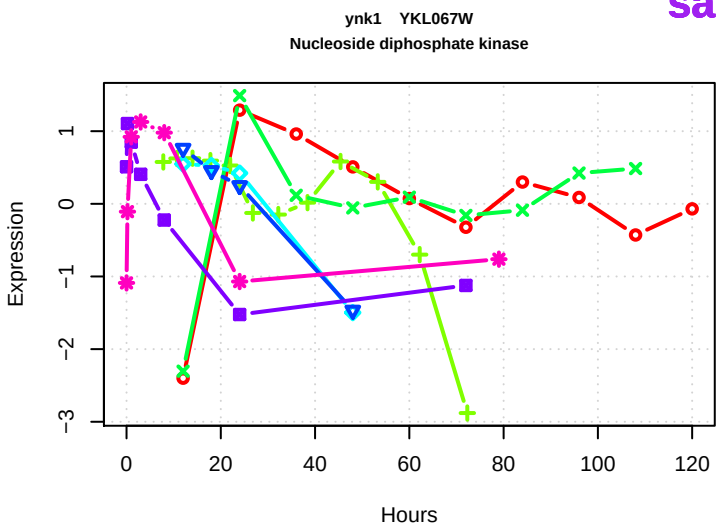
de novo biosynthesis of pyrimidine deoxyribonucleotides

de novo biosynthesis of pyrimidine deoxyribonucleotides



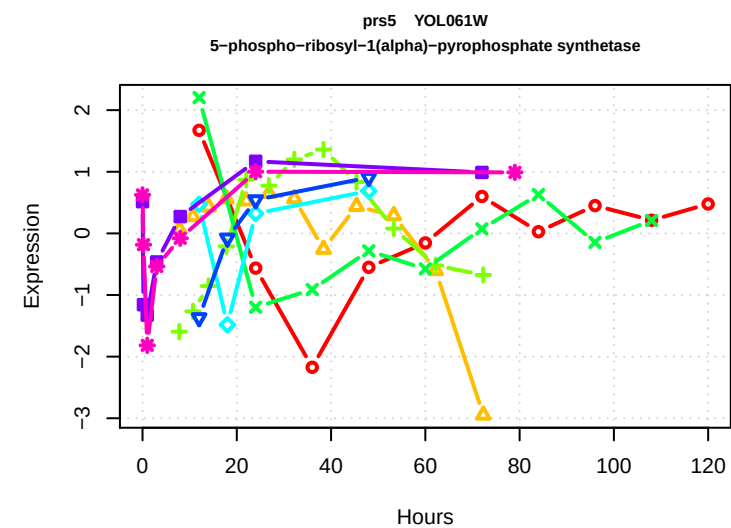
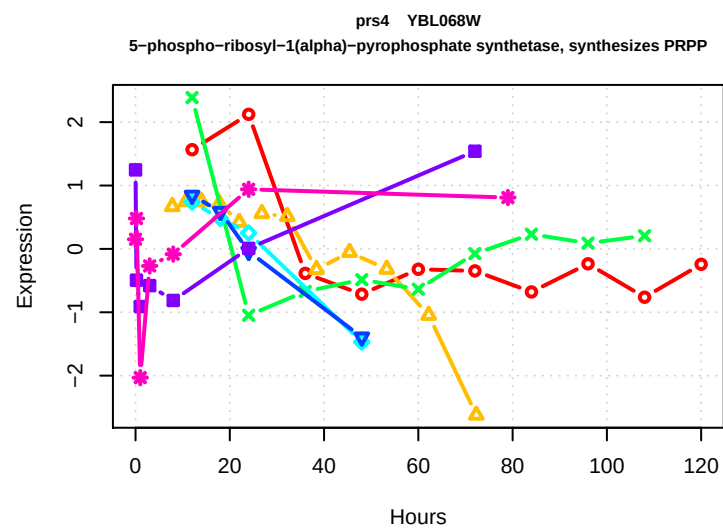
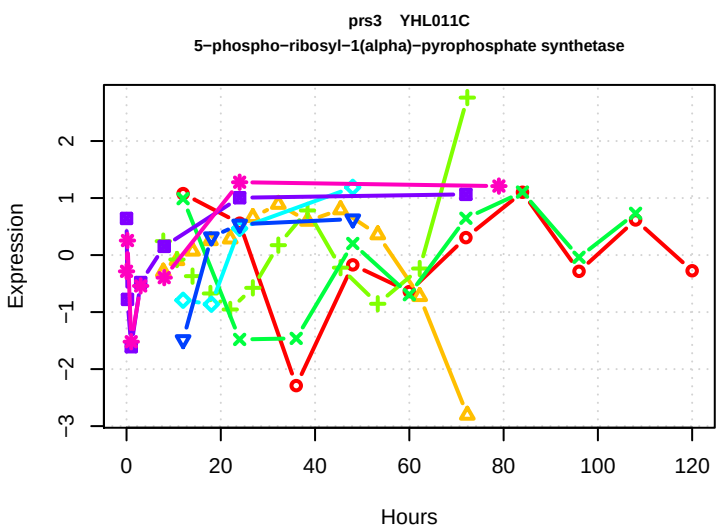
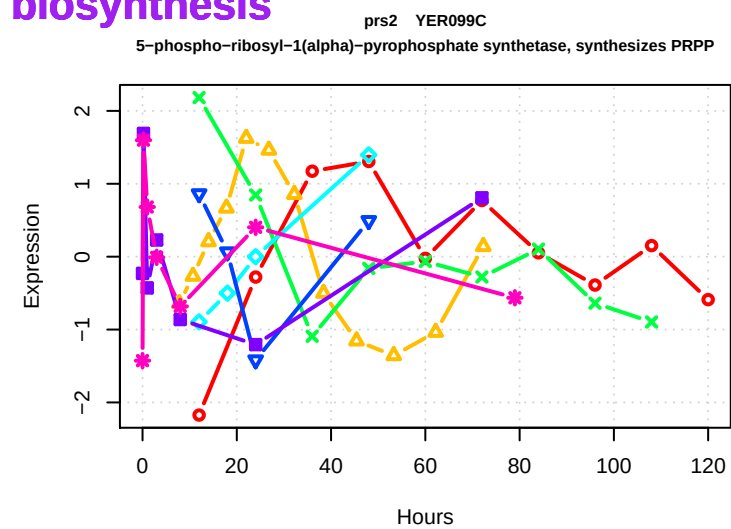
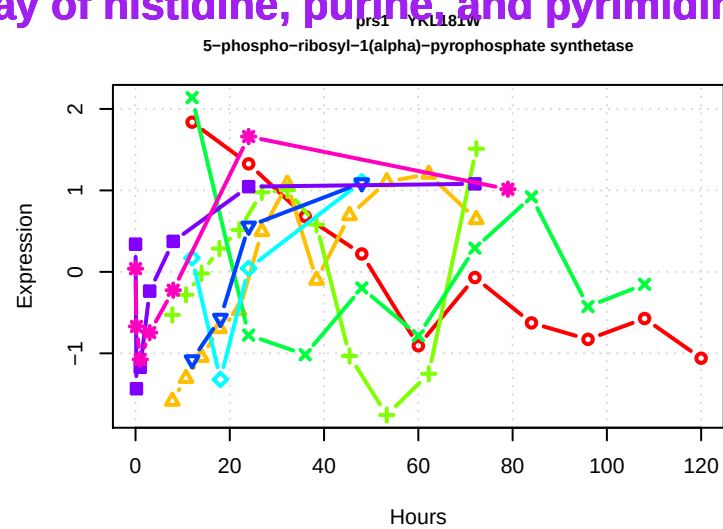
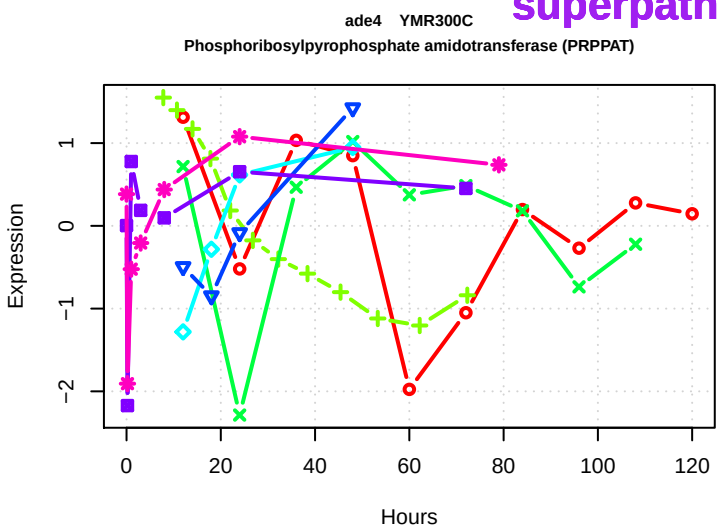
salvage pathways of pyrimidine ribonucleotides

salvage pathways of pyrimidine ribonucleotides



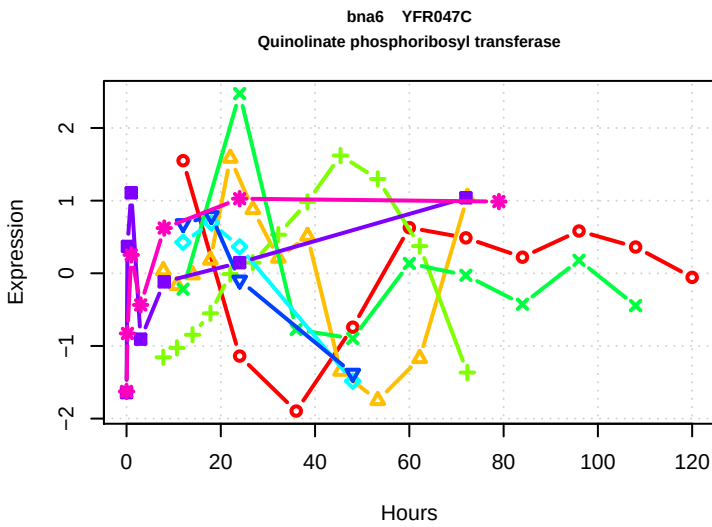
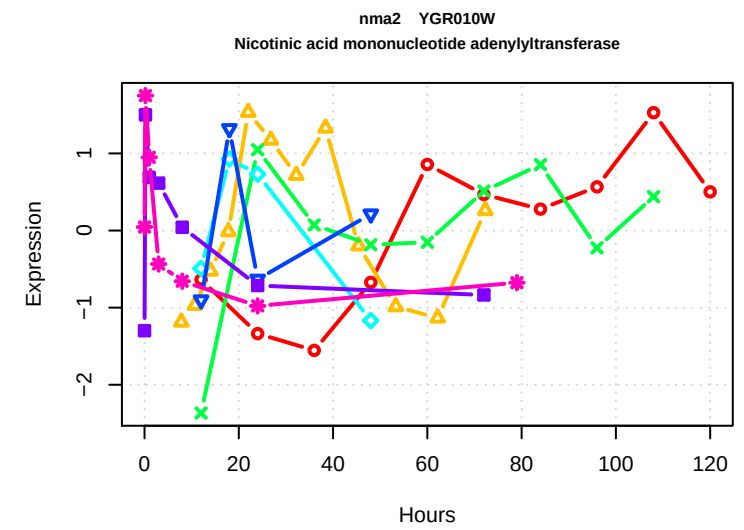
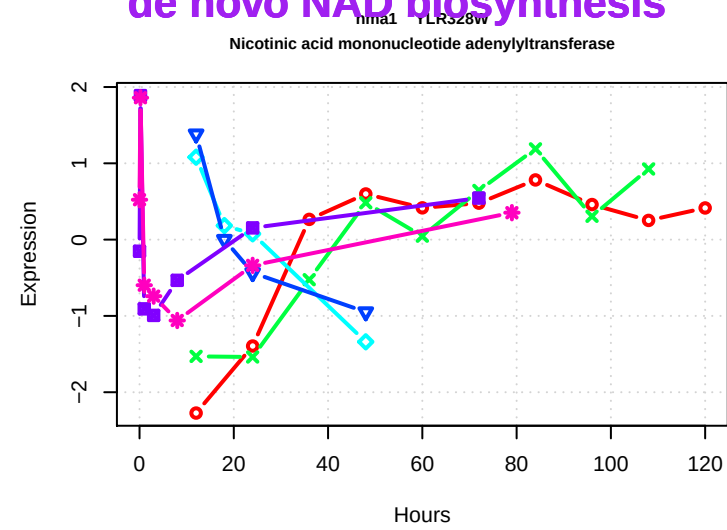
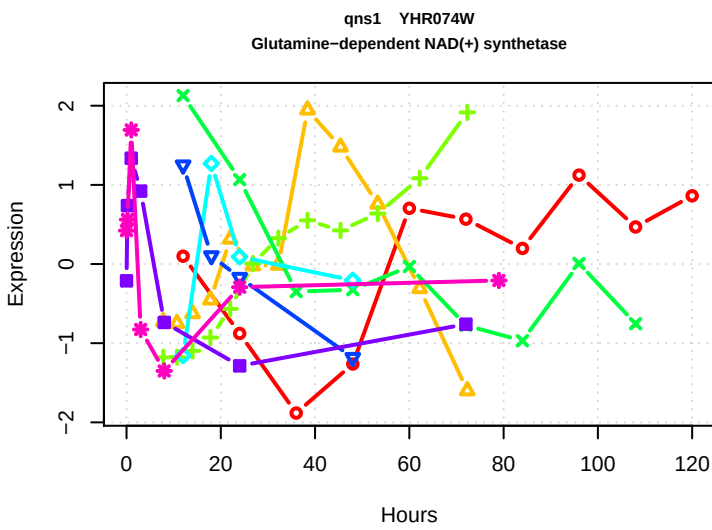
superpathway of histidine, purine, and pyrimidine biosynthesis

superpathway of histidine, purine, and pyrimidine biosynthesis



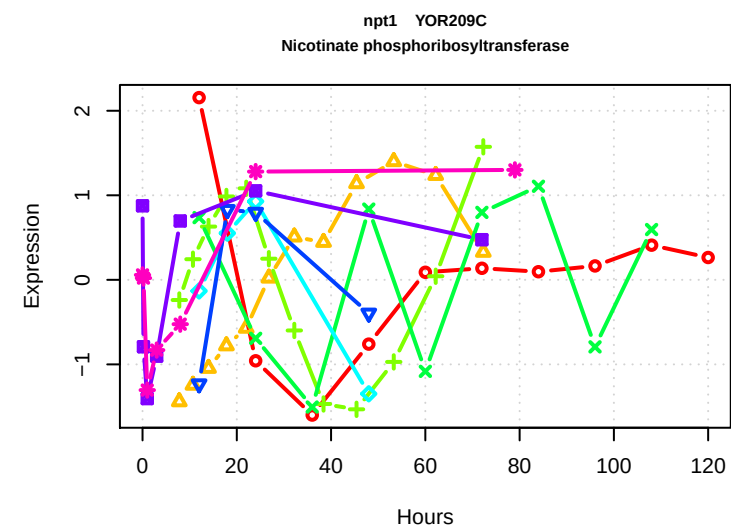
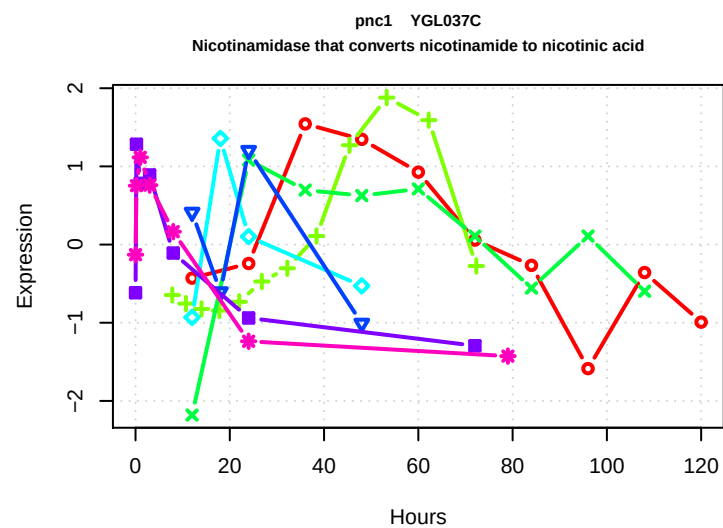
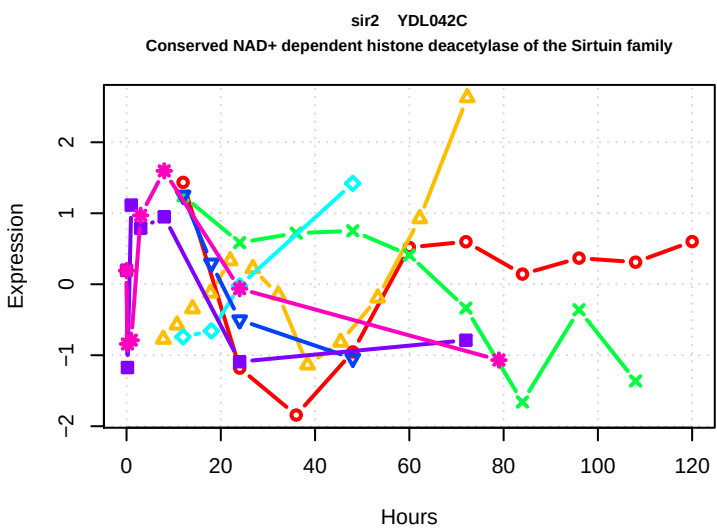
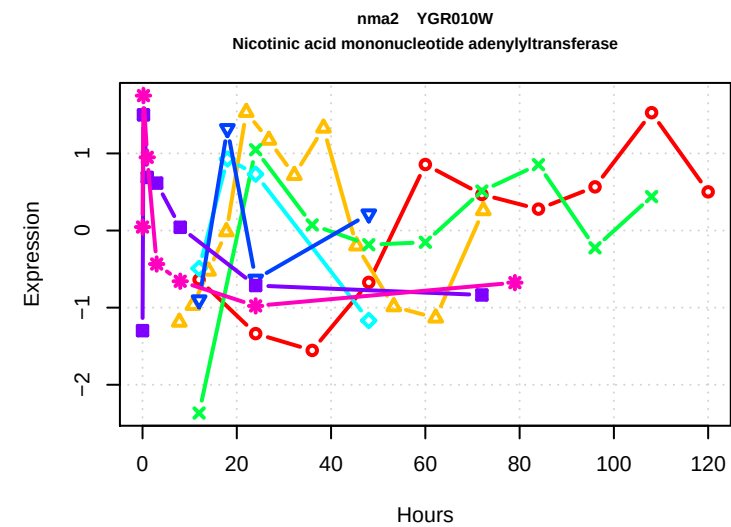
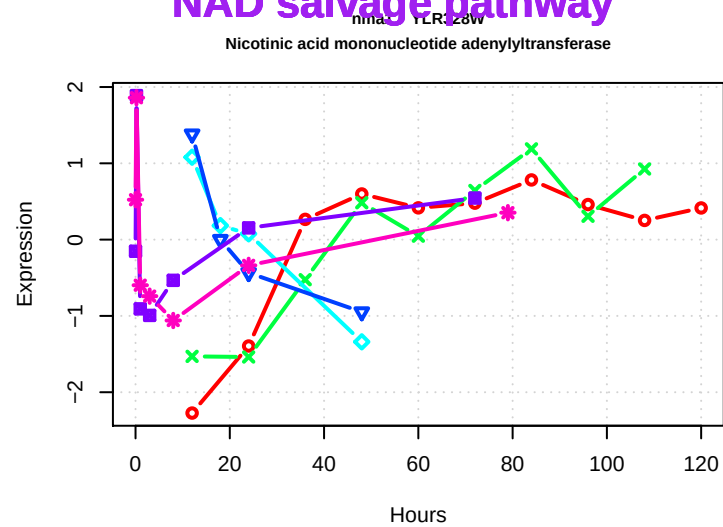
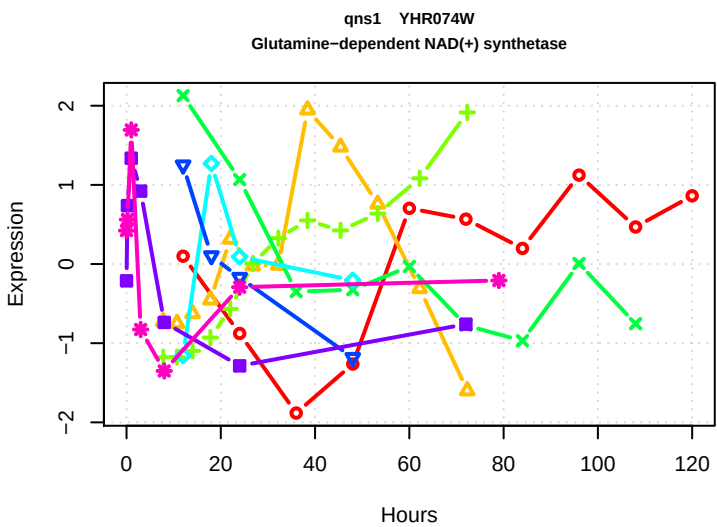
de novo NAD biosynthesis

de novo NAD biosynthesis



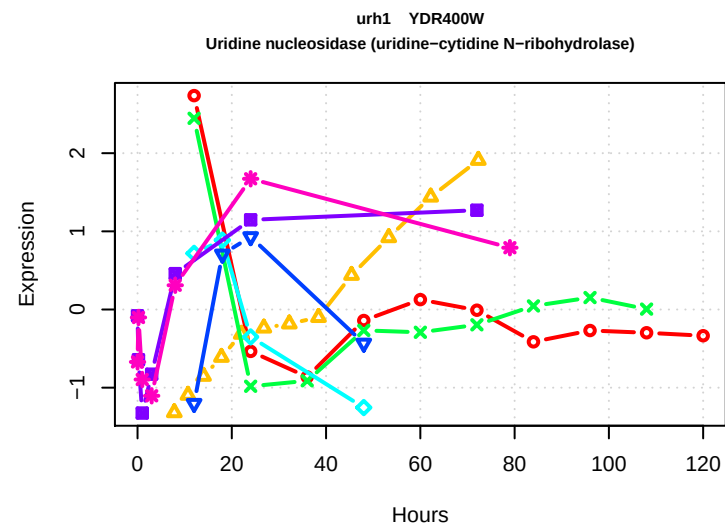
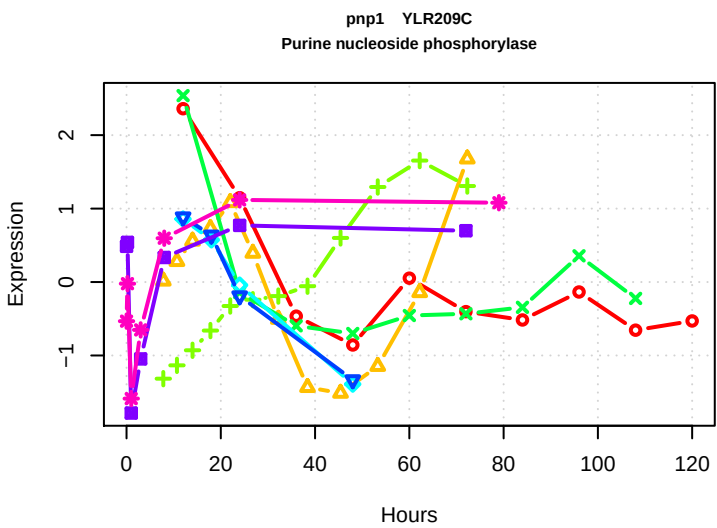
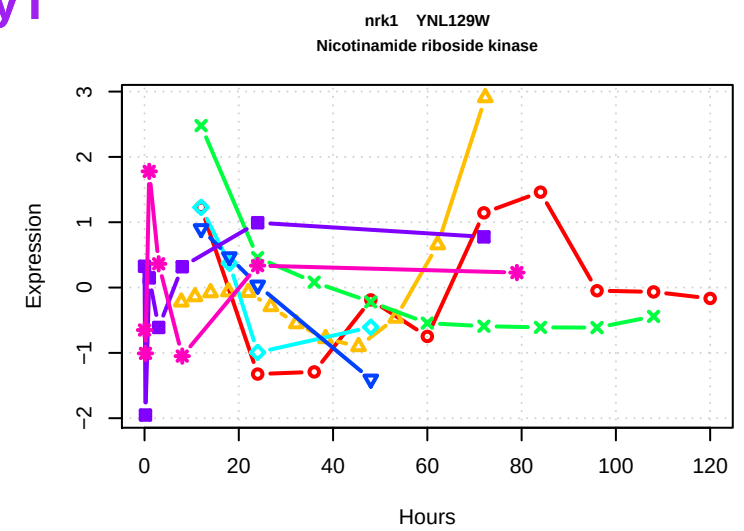
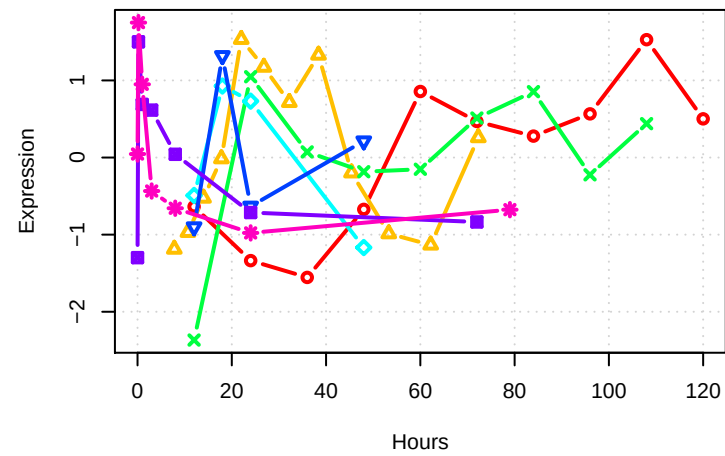
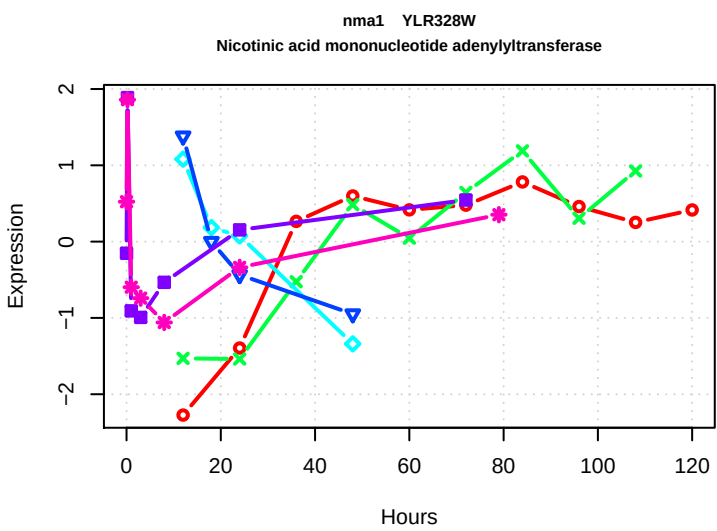
NAD salvage pathway

NAD salvage pathway



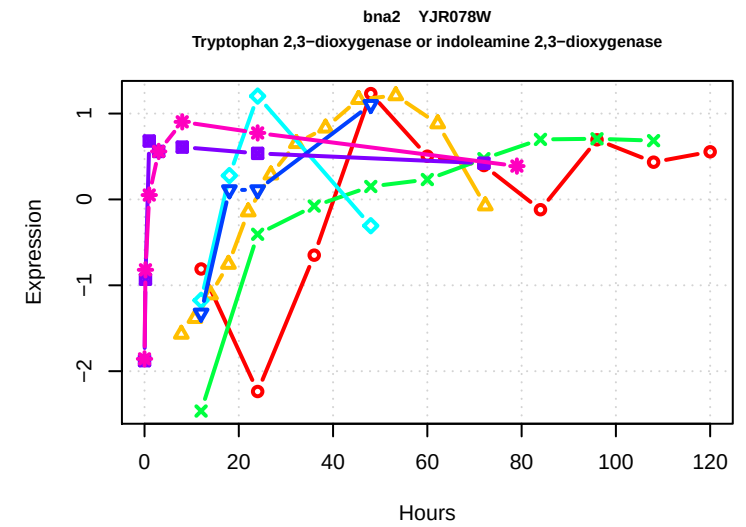
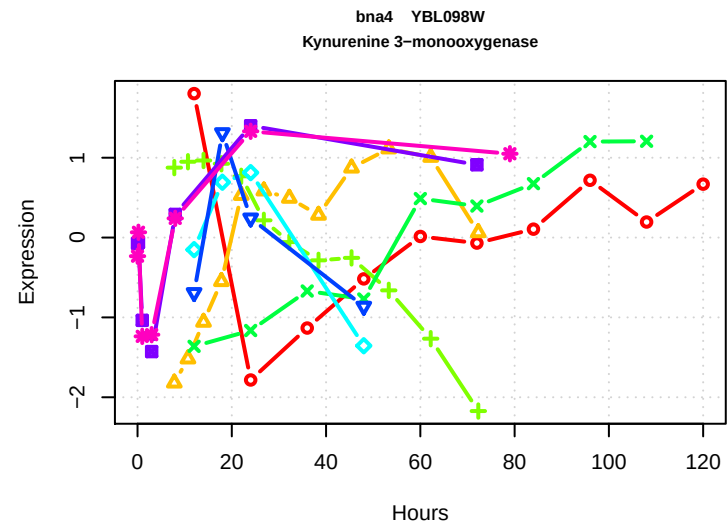
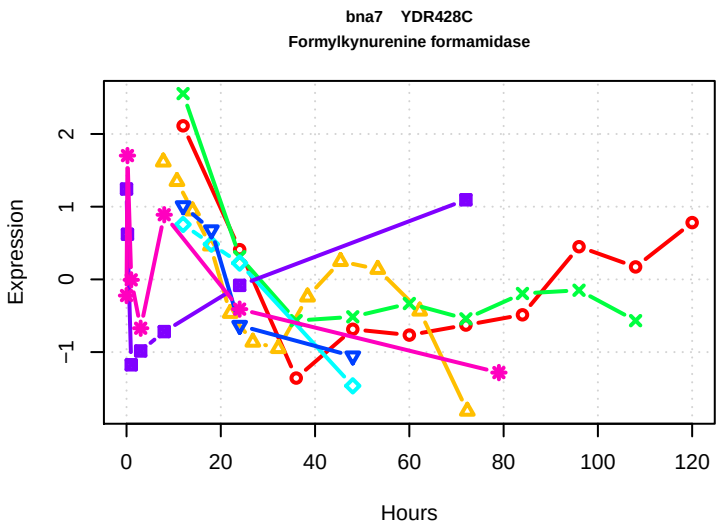
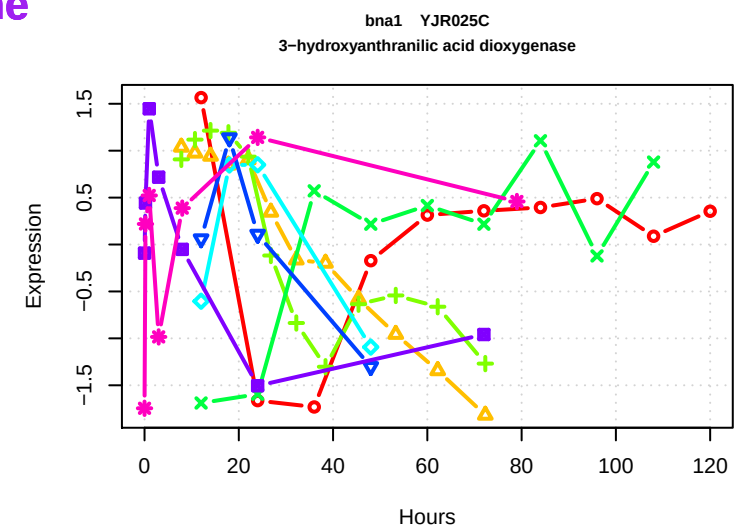
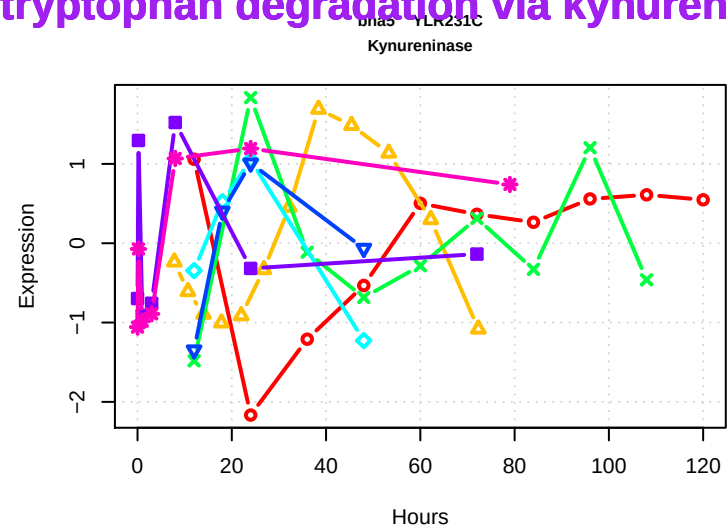
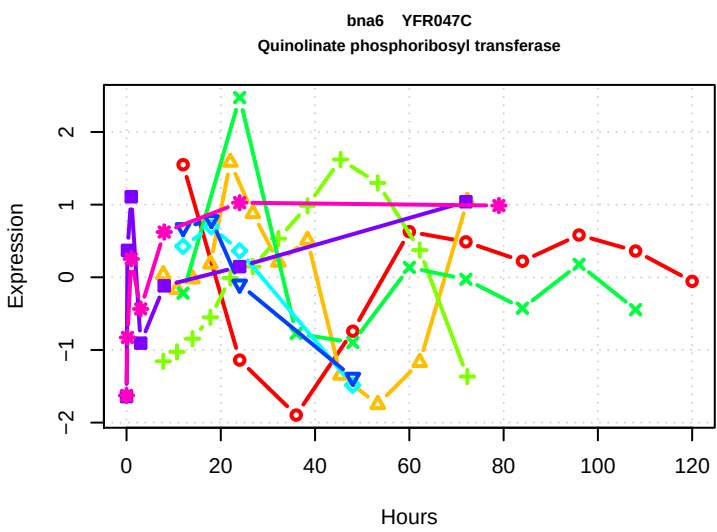
nicotinamide riboside salvage pathway I

nicotinamide riboside salvage pathway I

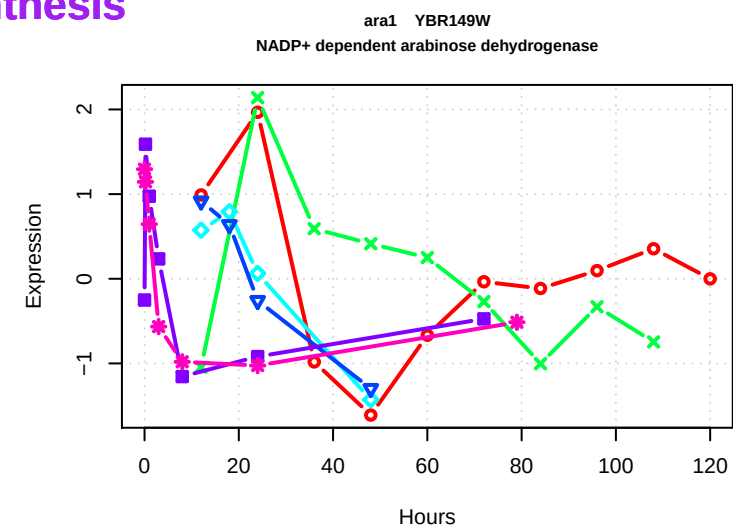
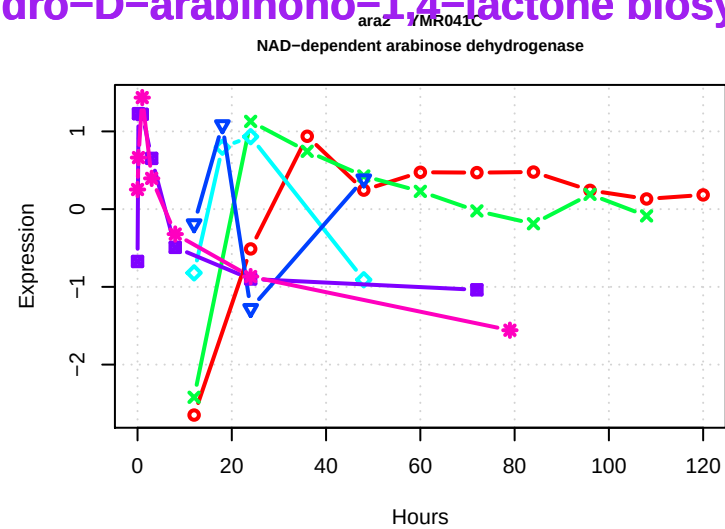
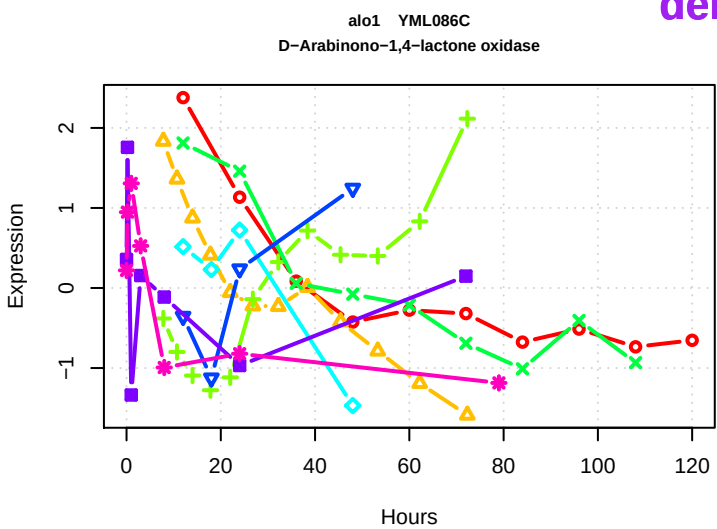


tryptophan degradation via kynurenine

tryptophan degradation via kynurenine

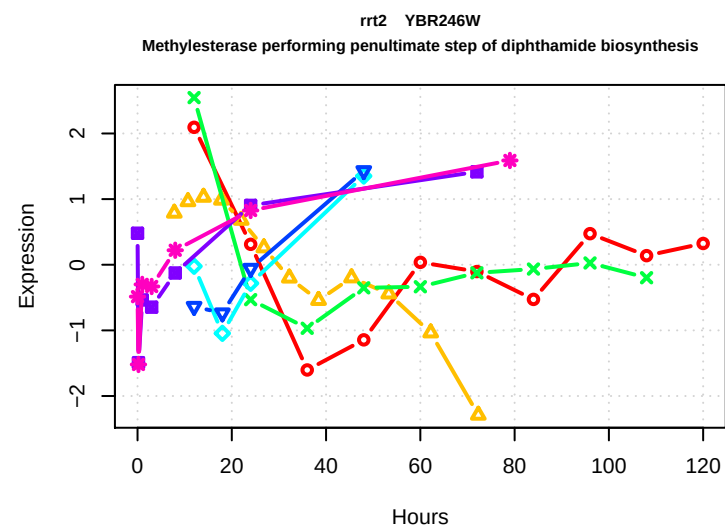
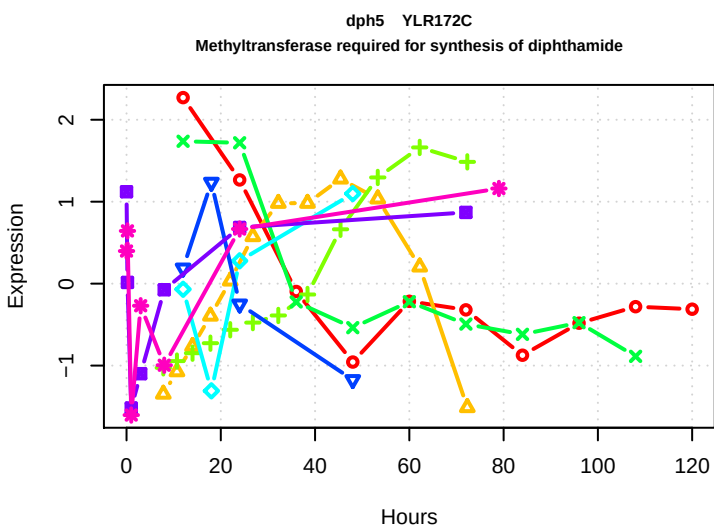
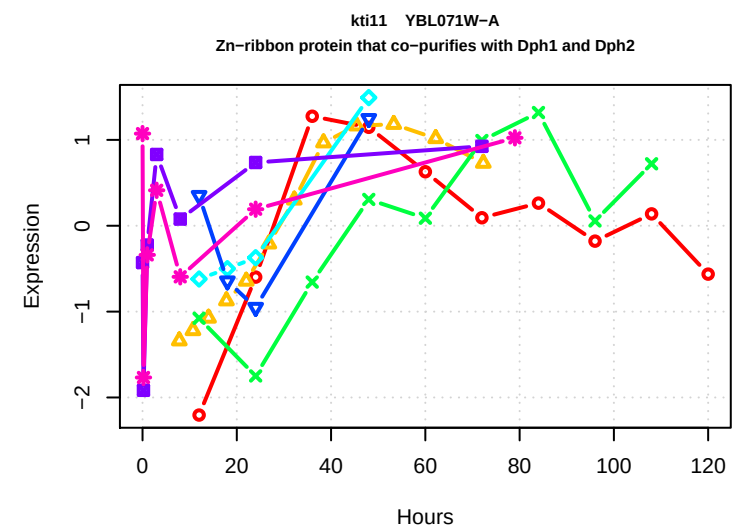
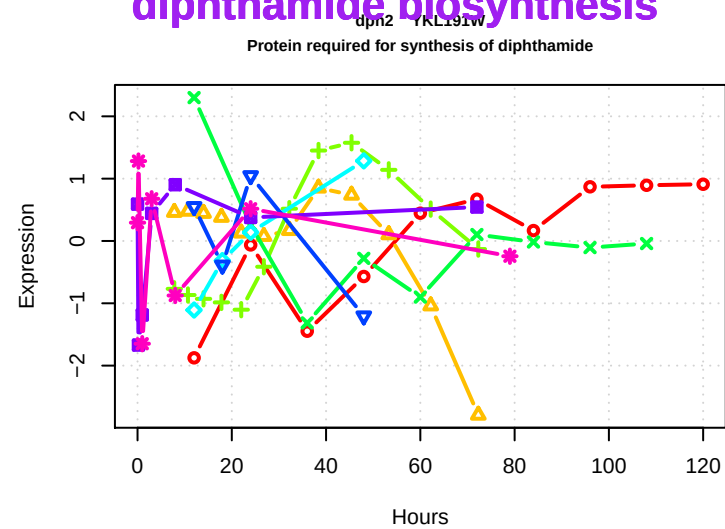
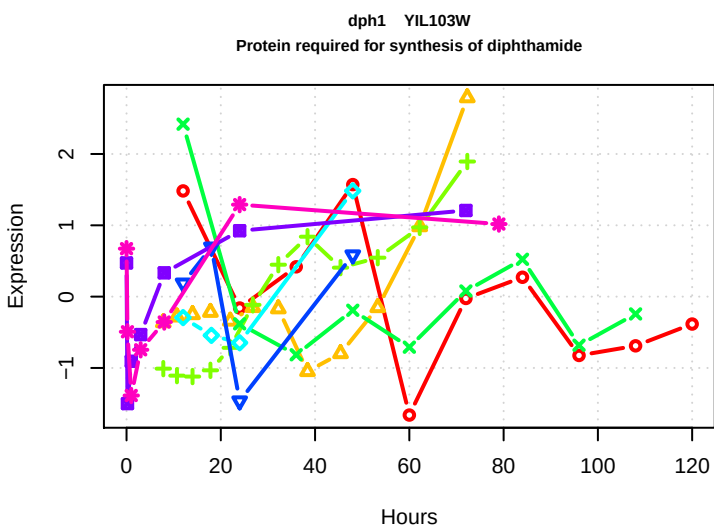


dehydro-D-arabinono-1,4-lactone biosynthesis

dehydro-D-arabinono-1,4-lactone biosynthesis ^{araz /MR041C}

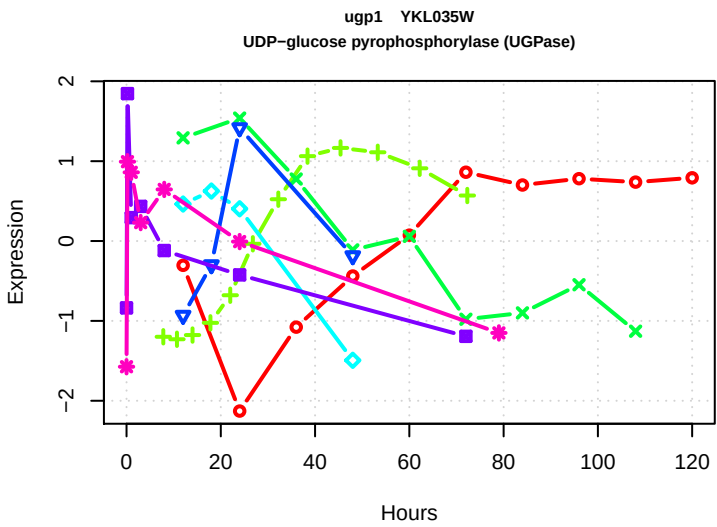
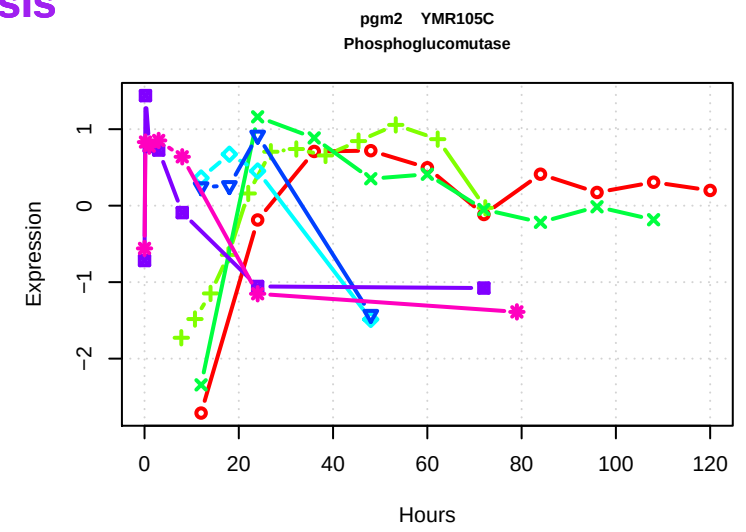
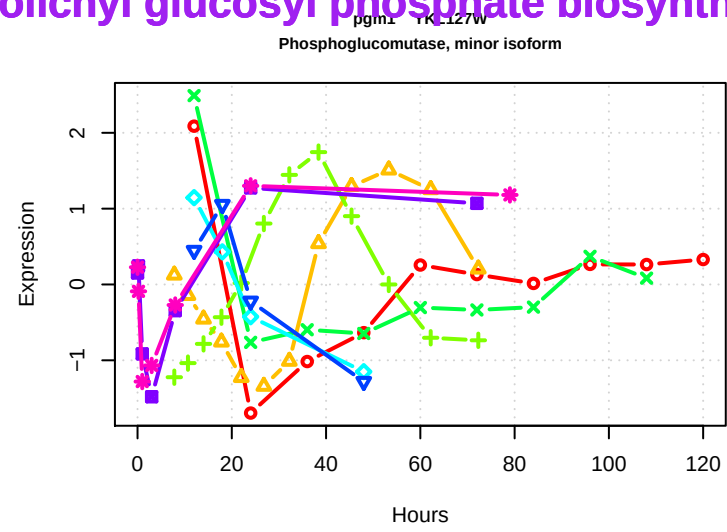
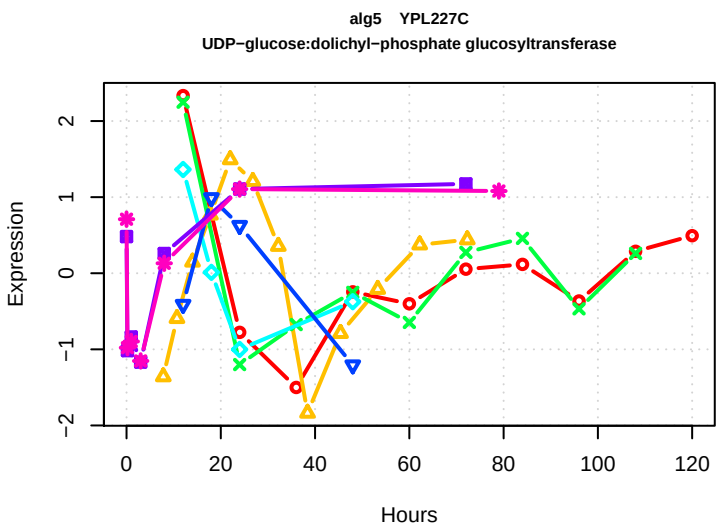
diphthamide biosynthesis

diphthamide biosynthesis



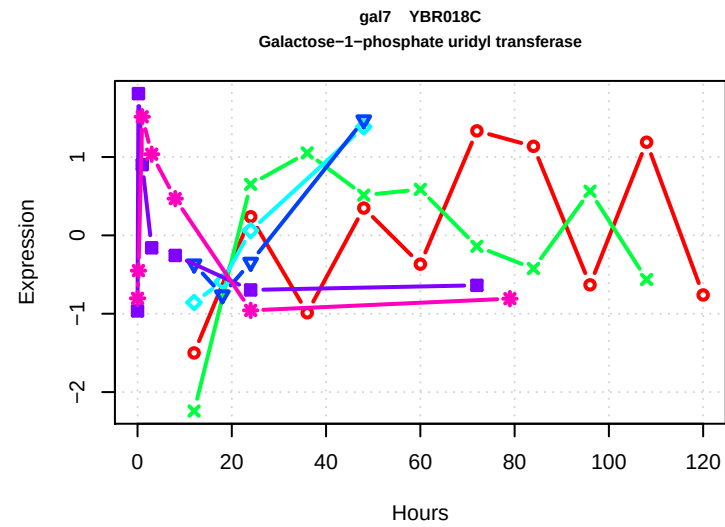
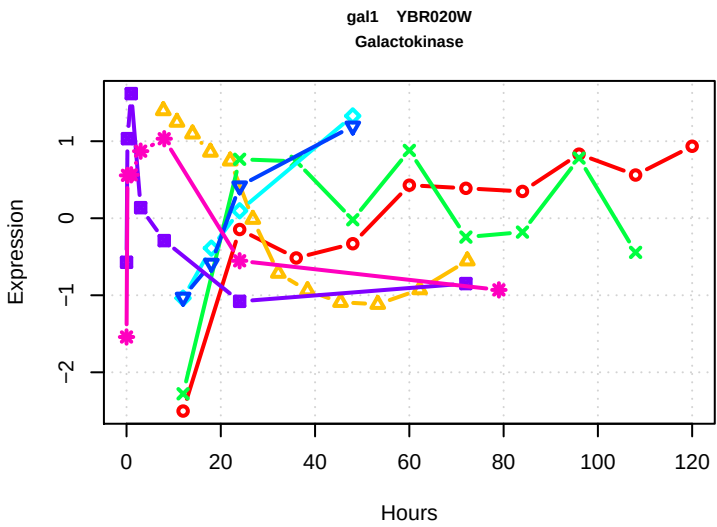
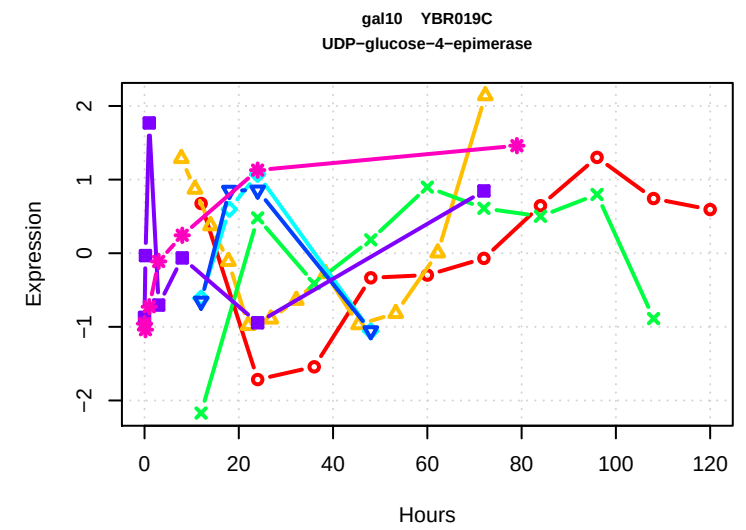
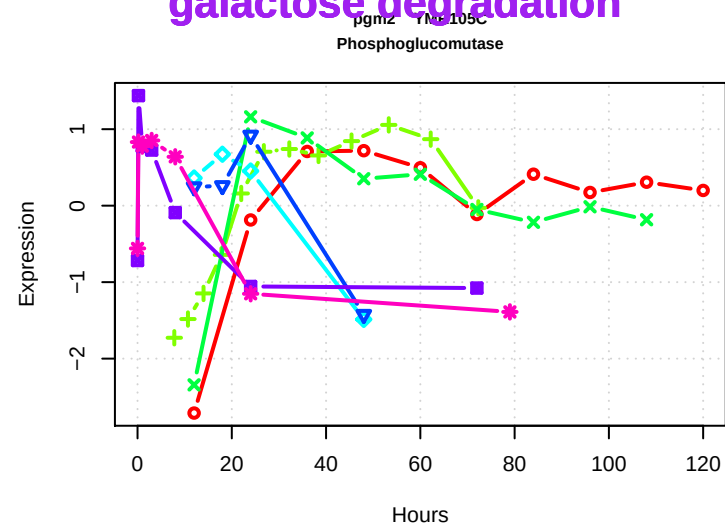
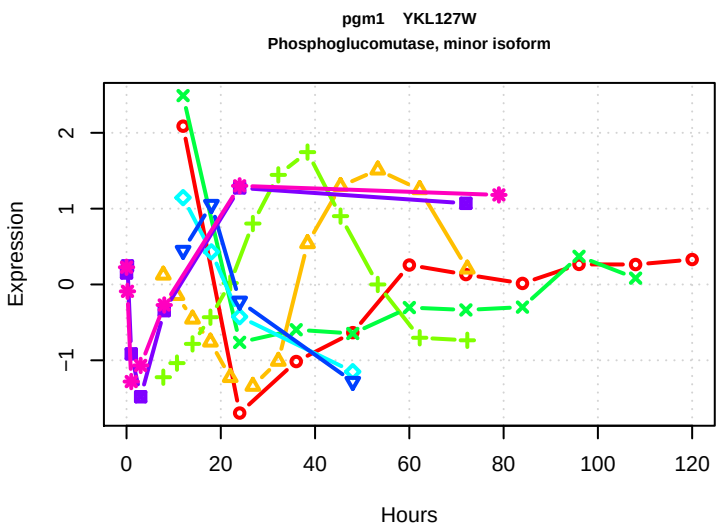
dolichyl glucosyl phosphate biosynthesis

dolichyl glucosyl phosphate biosynthesis



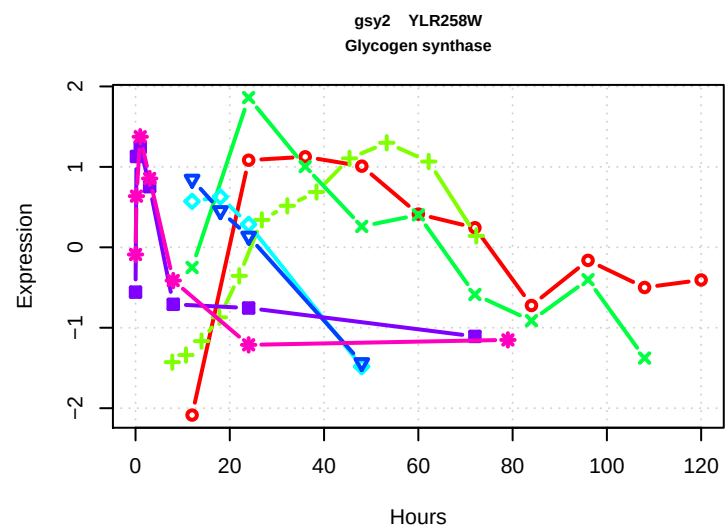
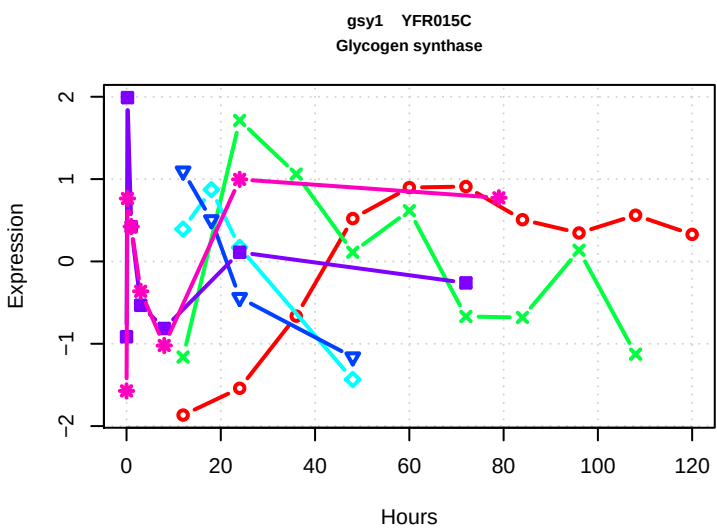
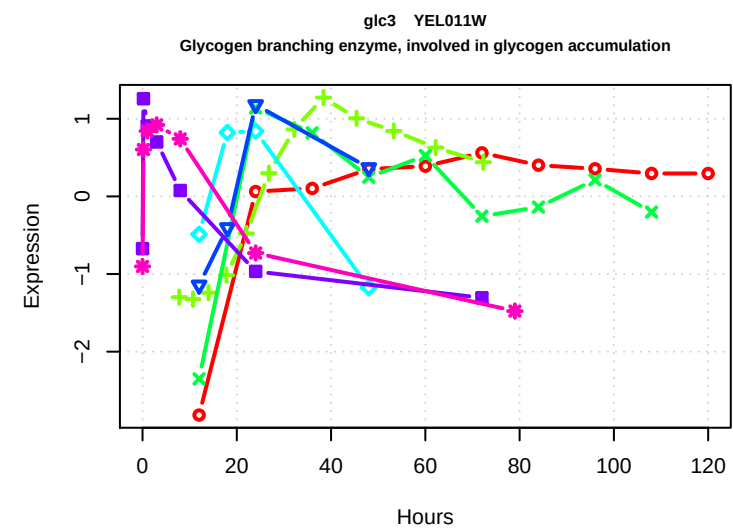
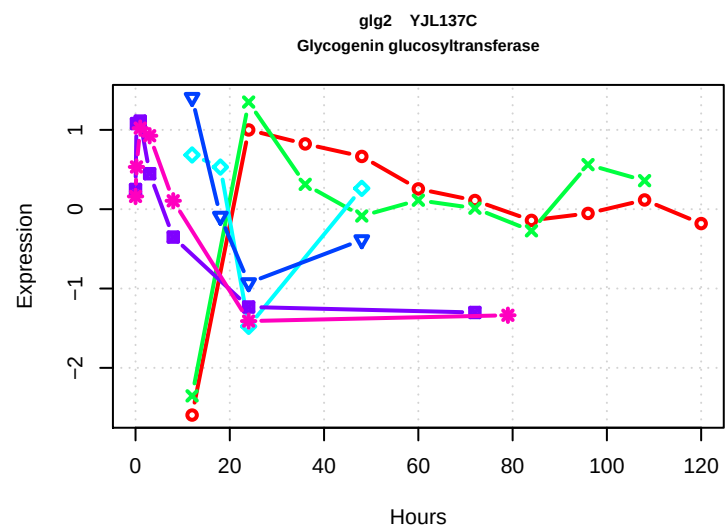
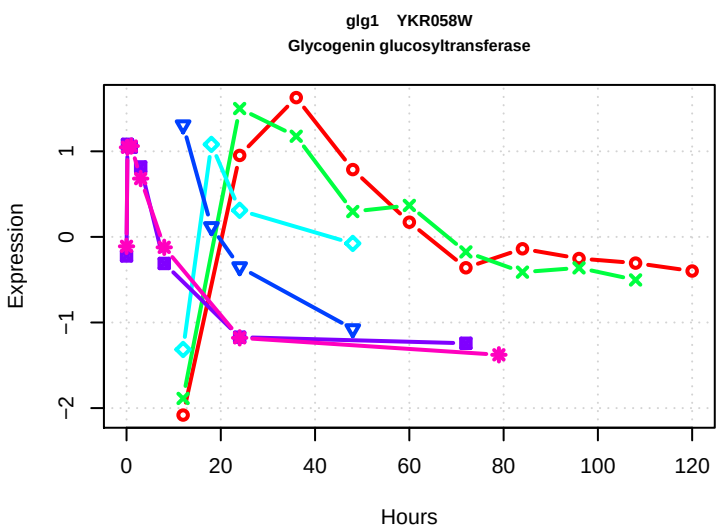
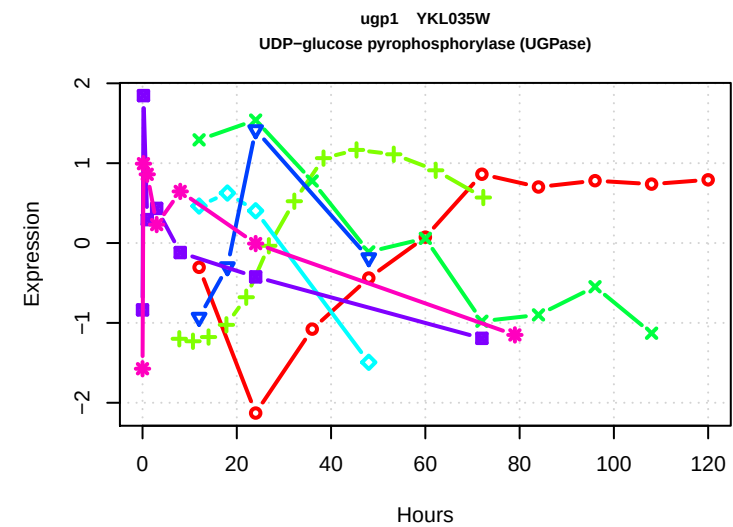
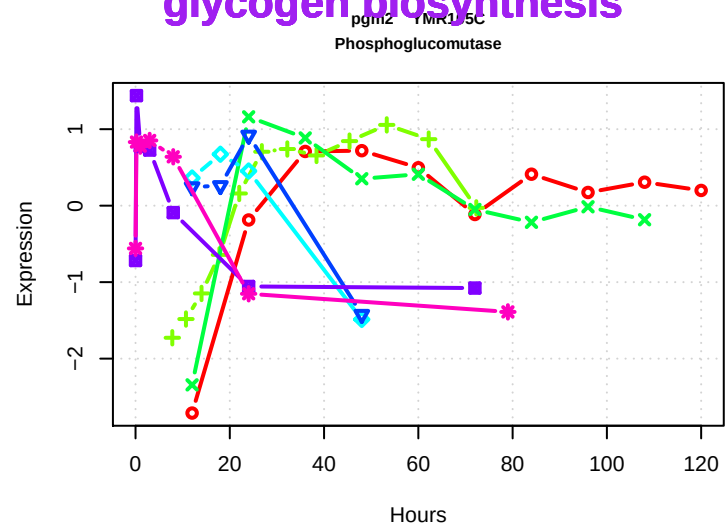
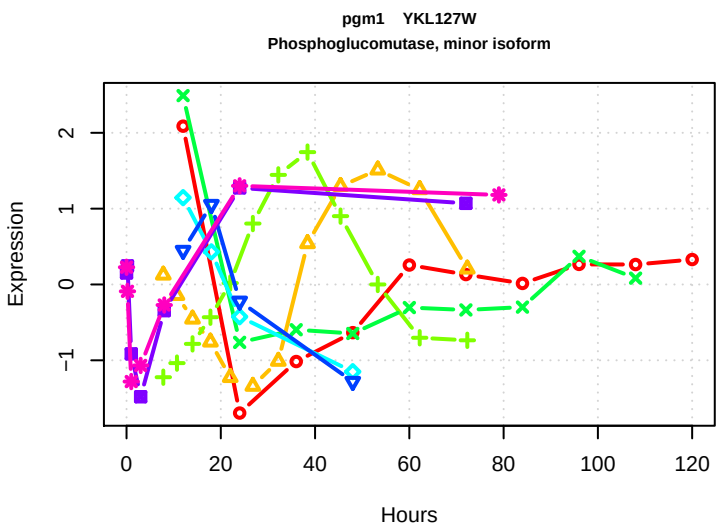
galactose degradation

galactose degradation



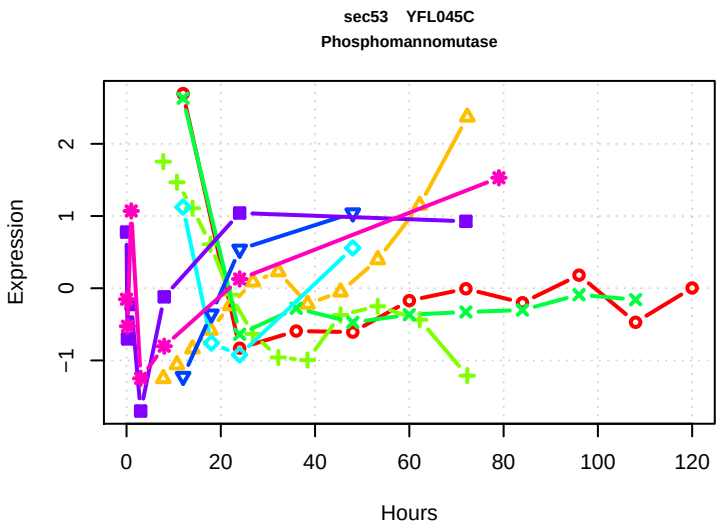
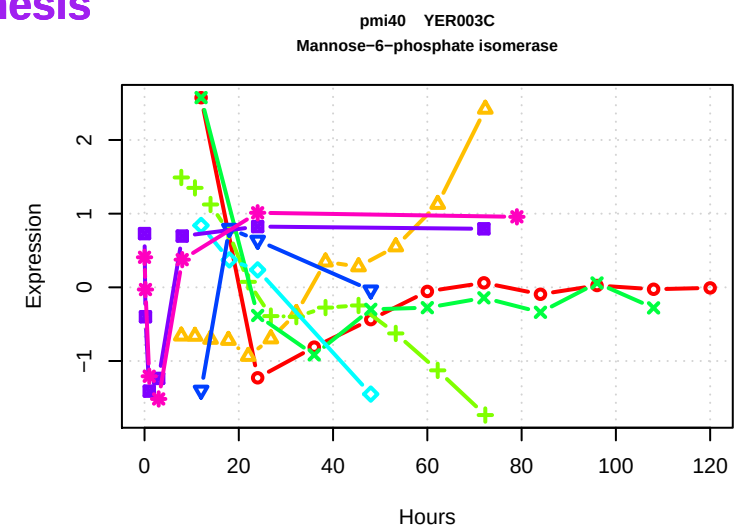
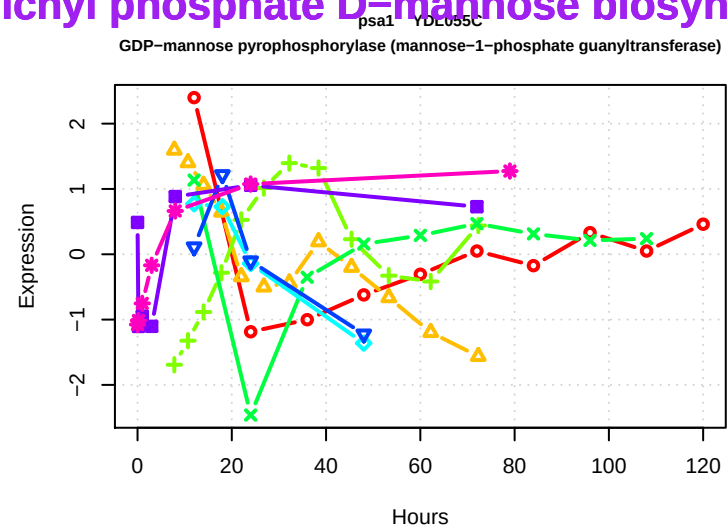
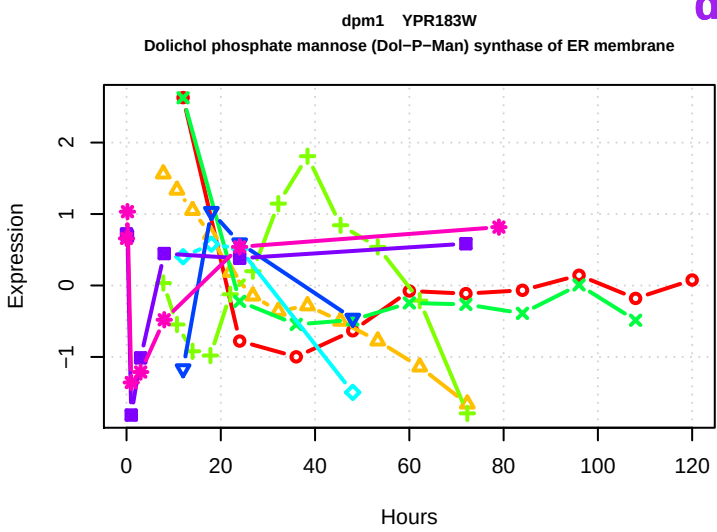
glycogen biosynthesis

glycogen biosynthesis



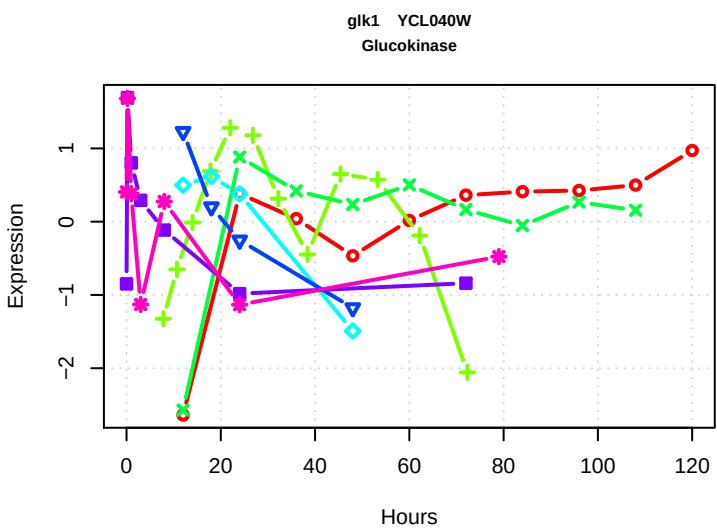
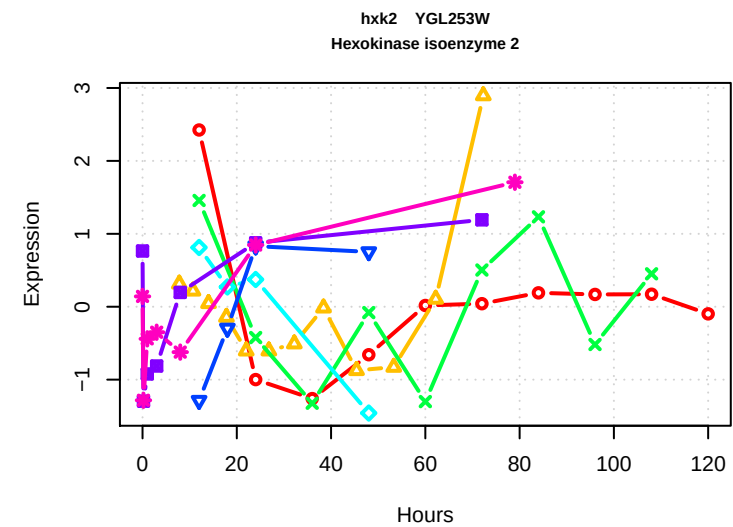
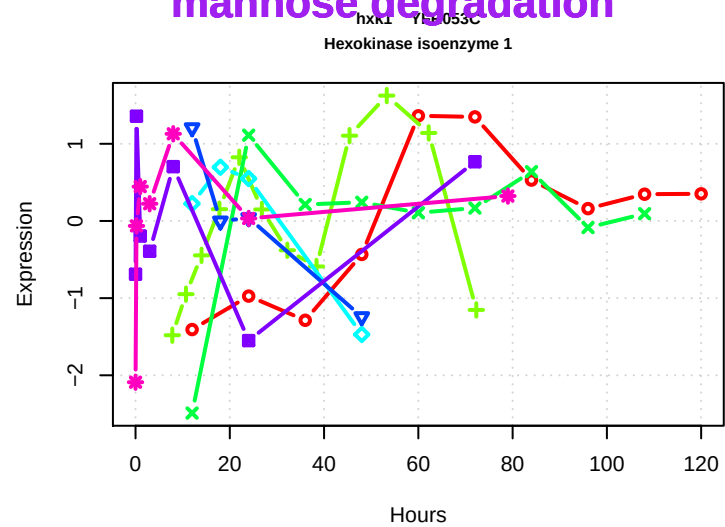
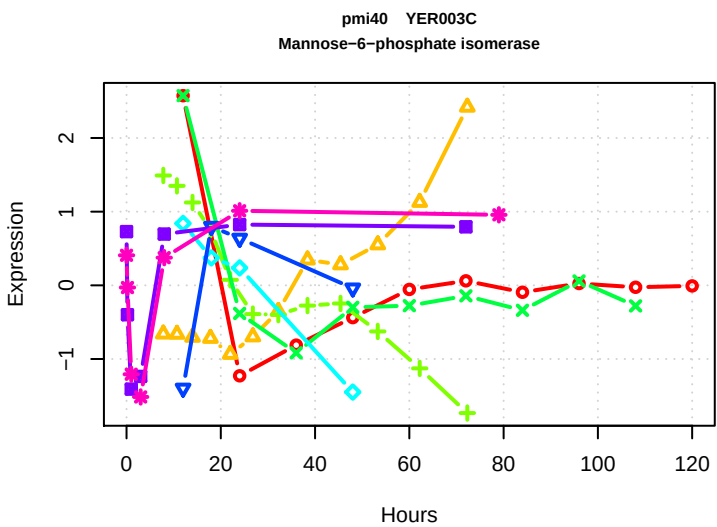
dolichyl phosphate D-mannose biosynthesis

dolichyl phosphate D-mannose biosynthesis



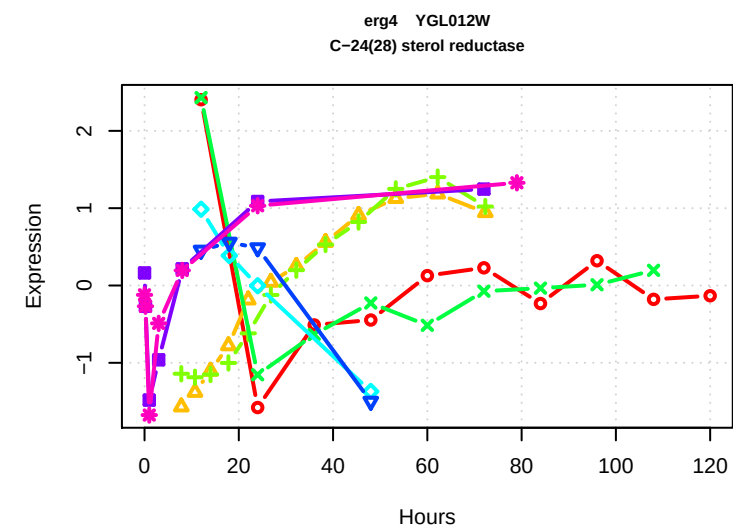
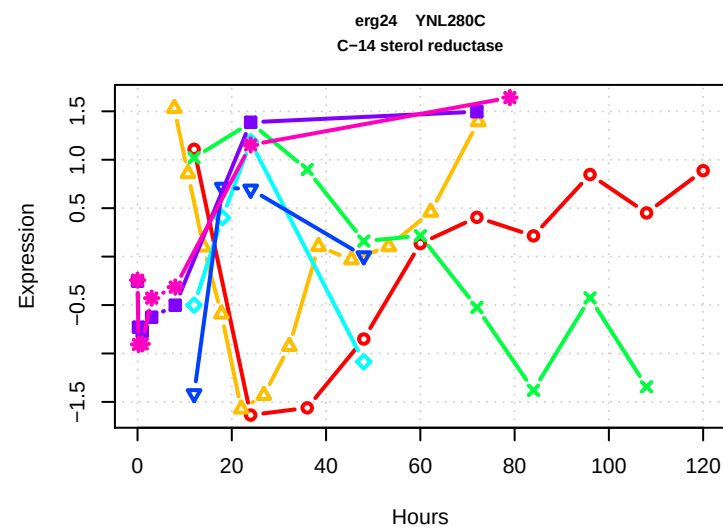
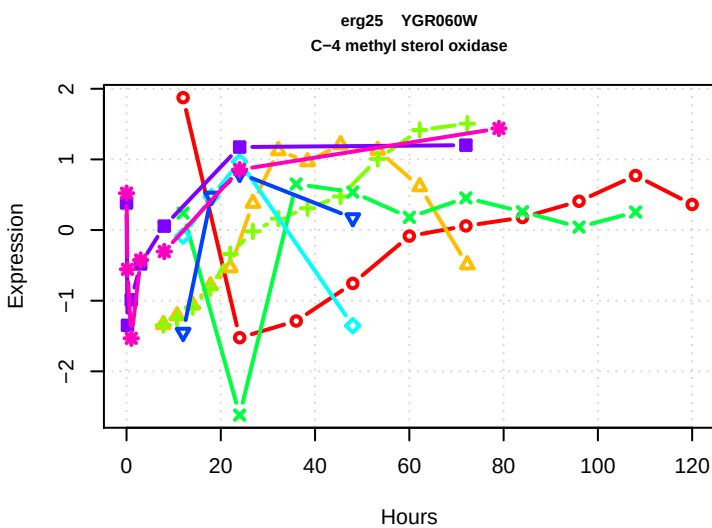
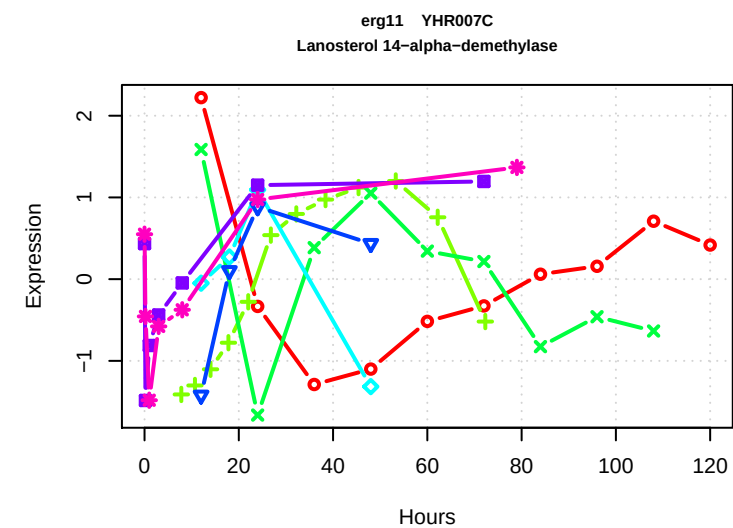
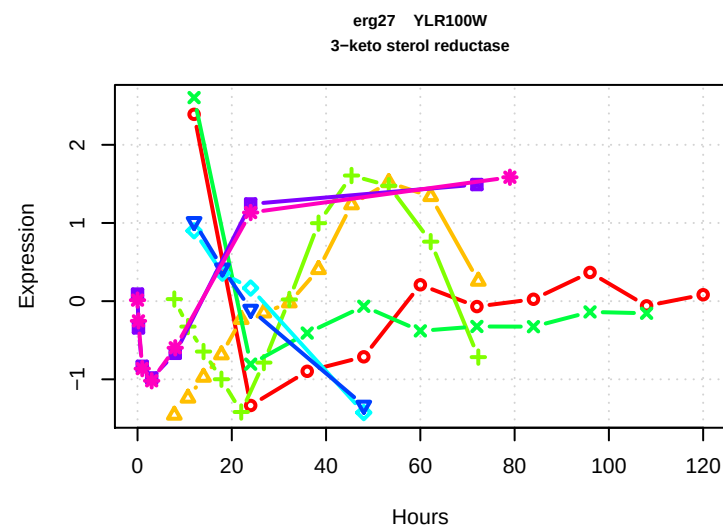
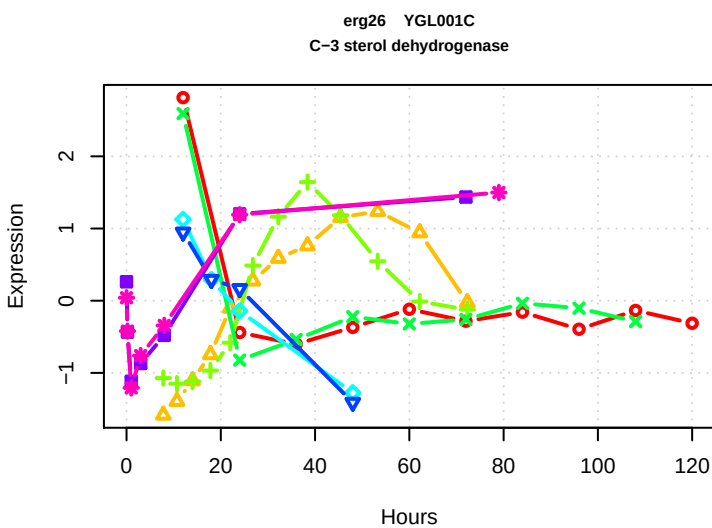
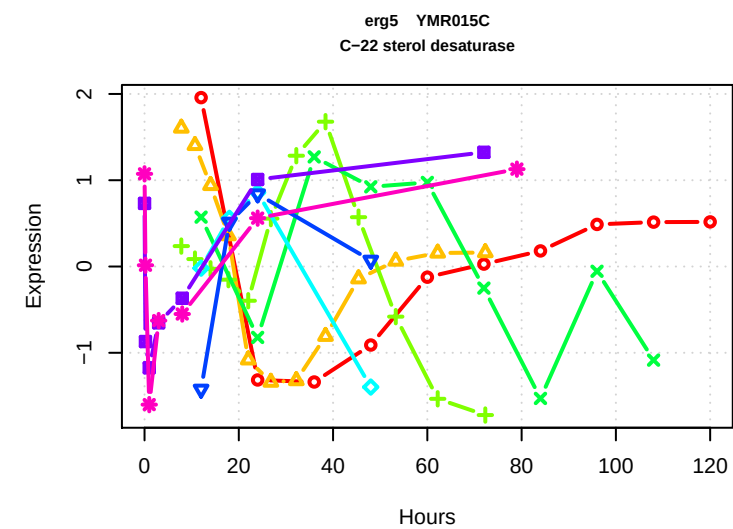
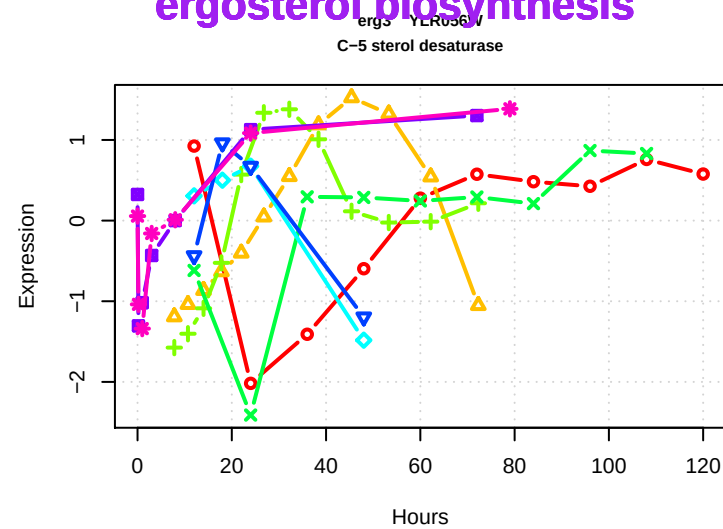
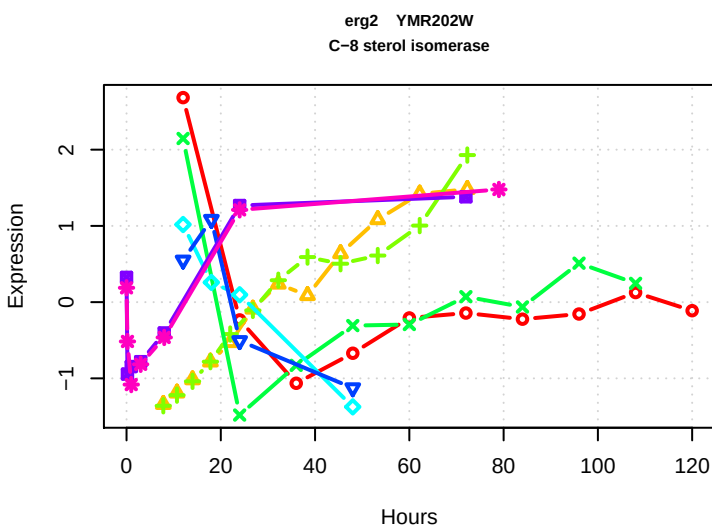
mannose degradation

mannose degradation

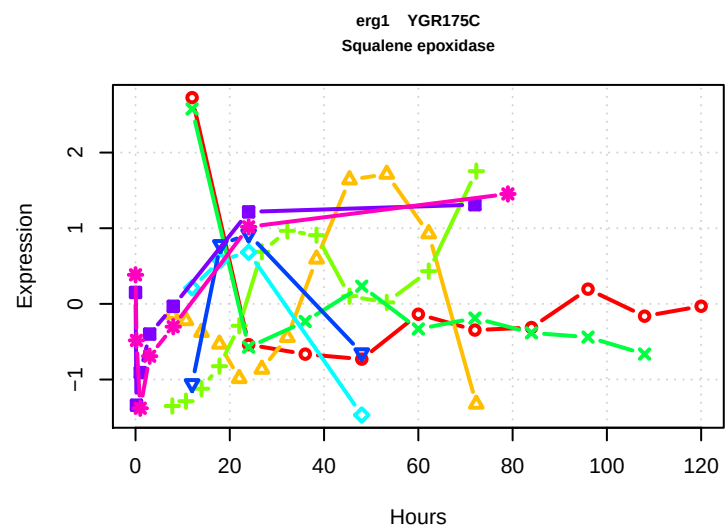
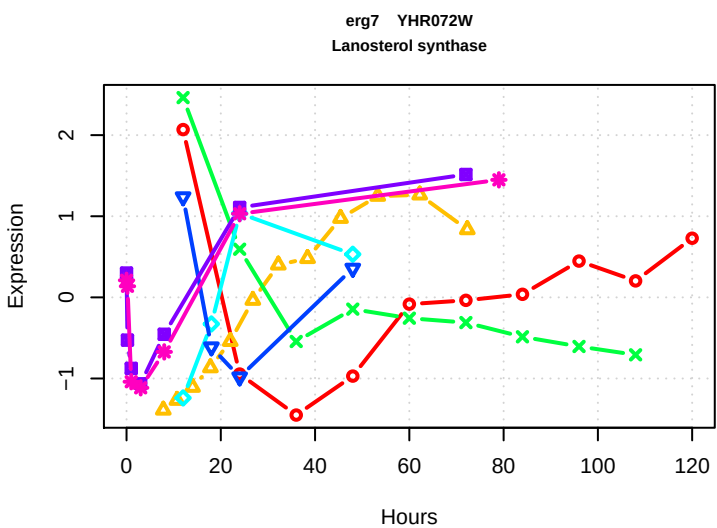
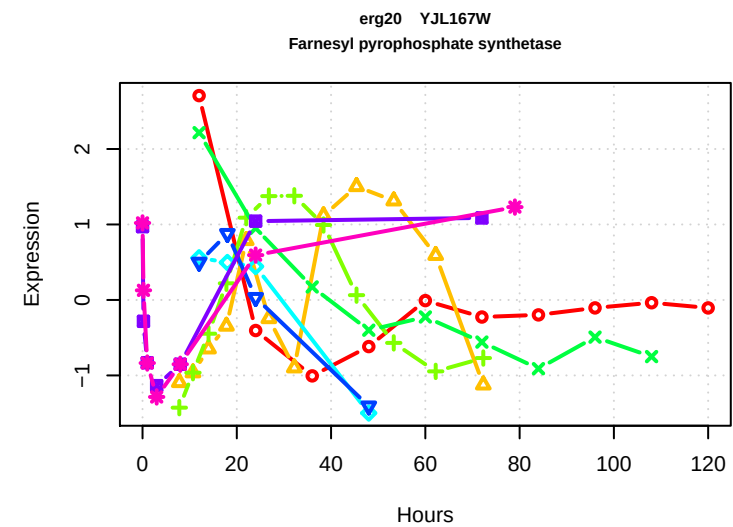
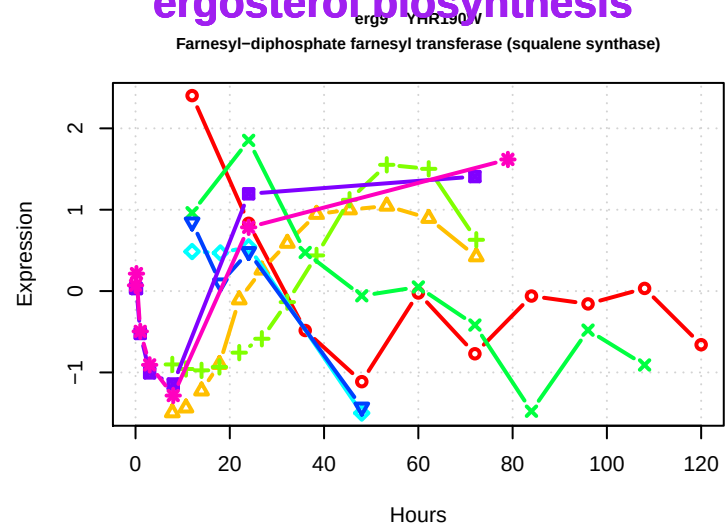
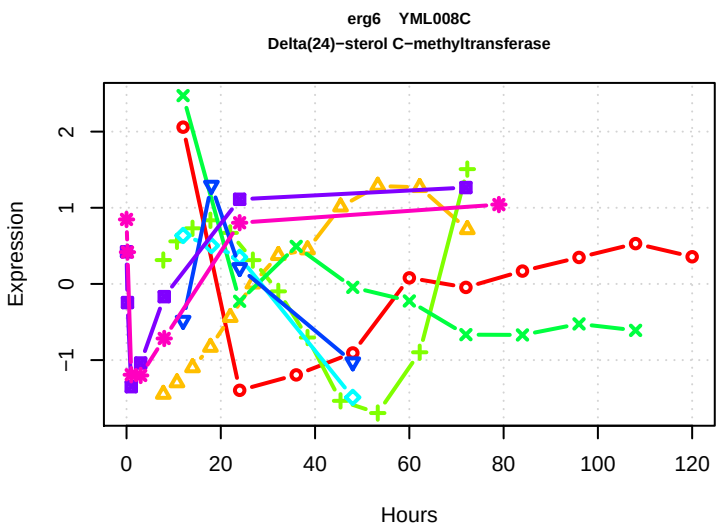


ergosterol biosynthesis

ergosterol biosynthesis

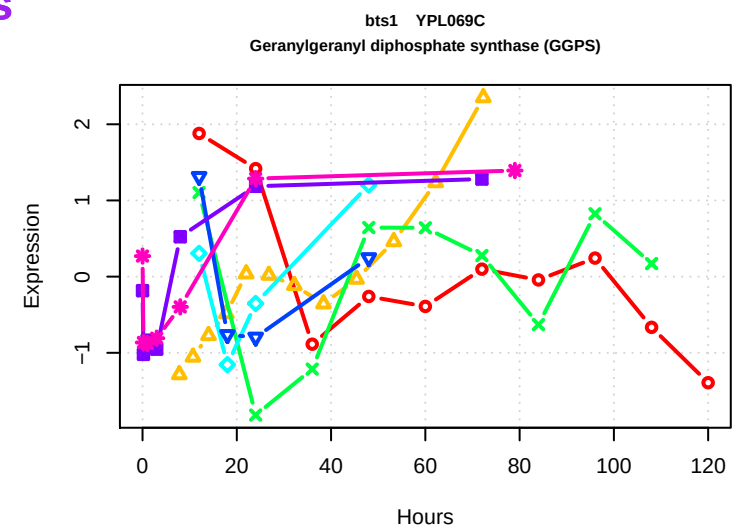
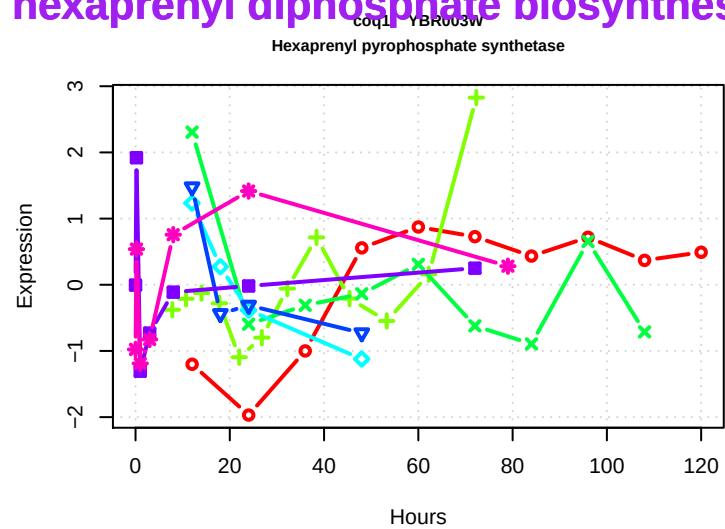
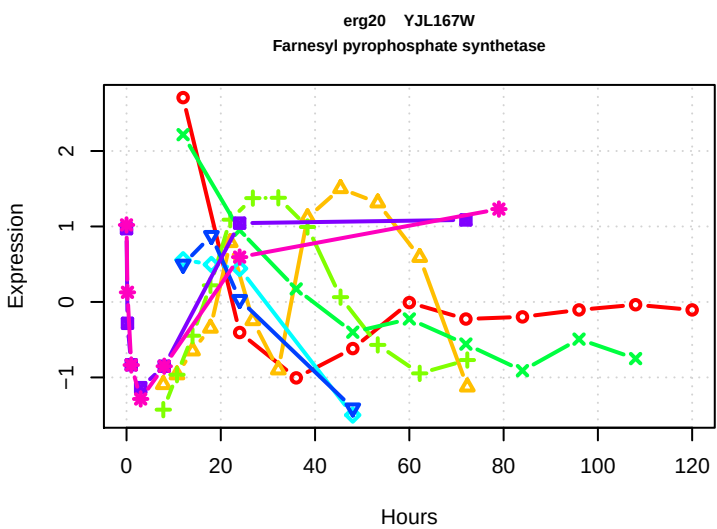


ergosterol biosynthesis



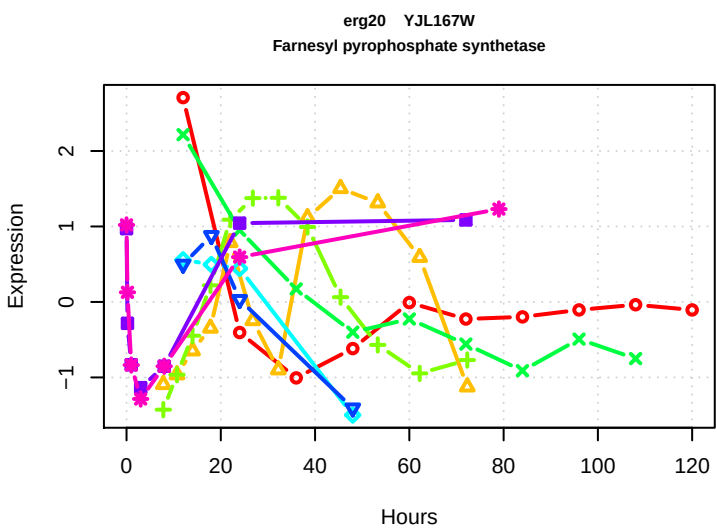
hexaprenyl diphosphate biosynthesis

hexaprenyl diphosphate biosynthesis



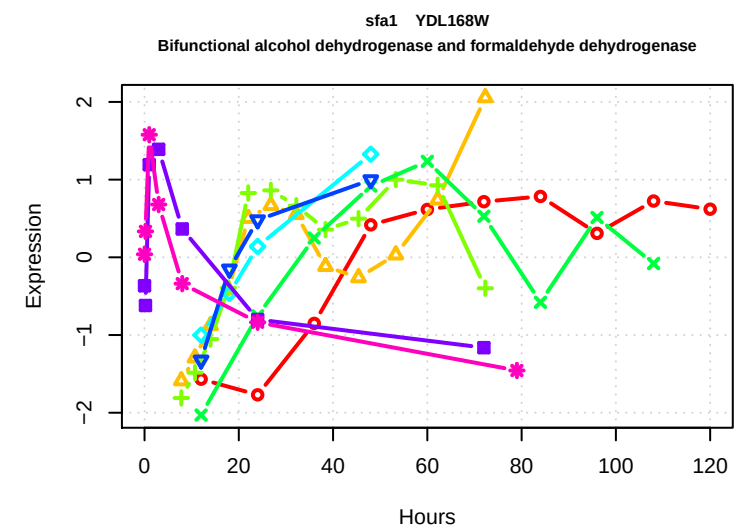
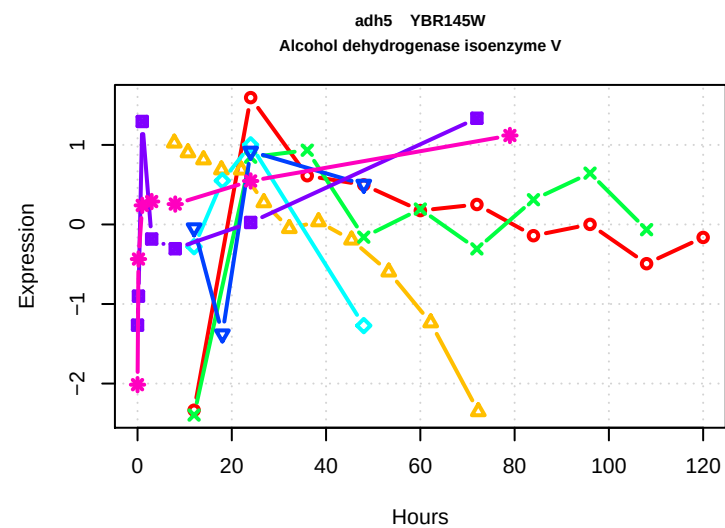
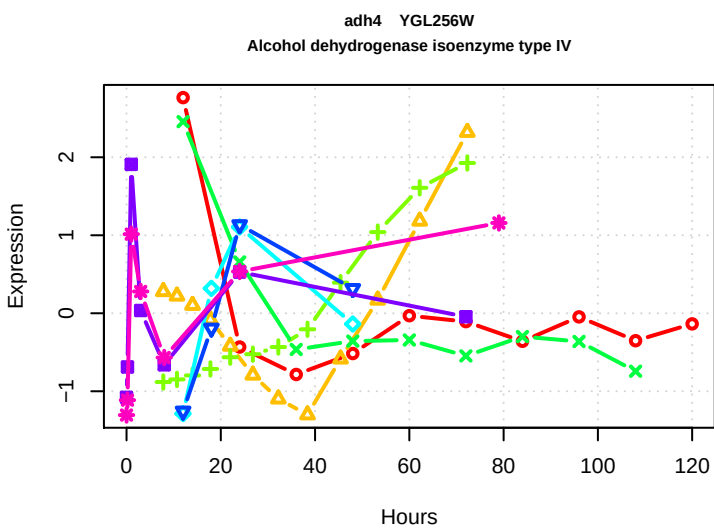
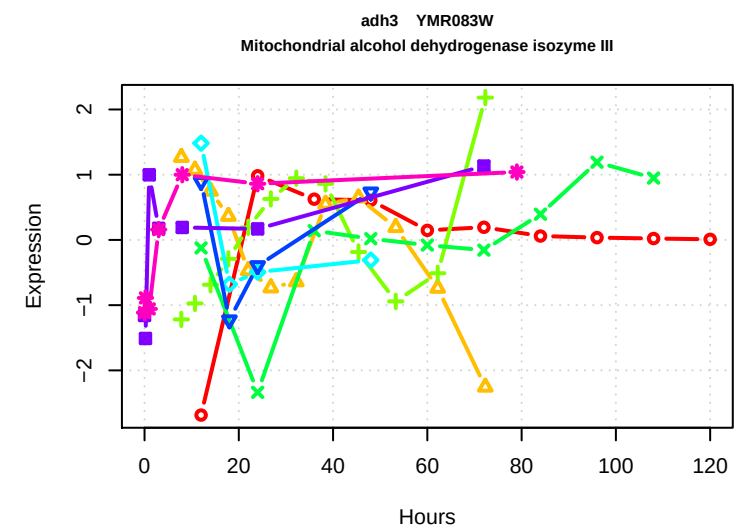
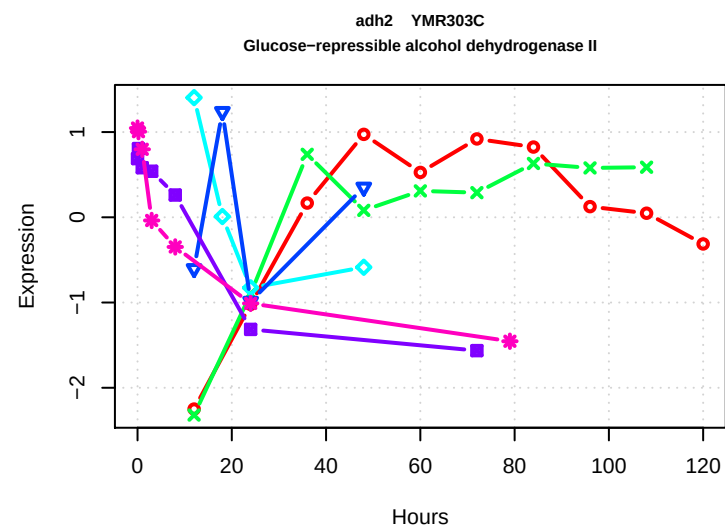
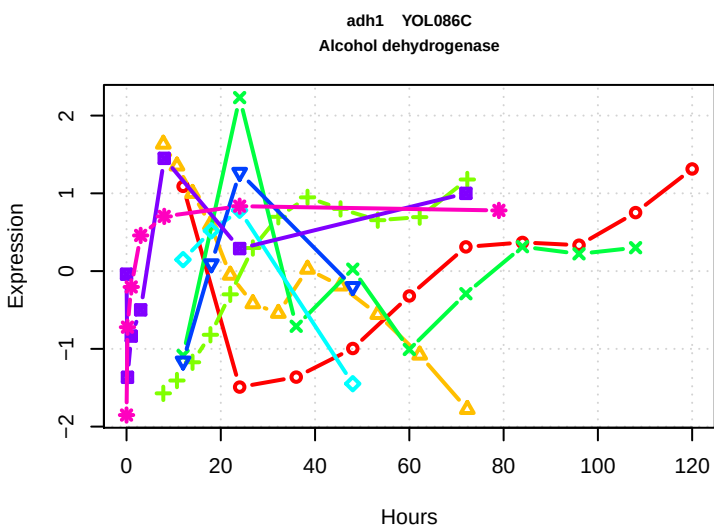
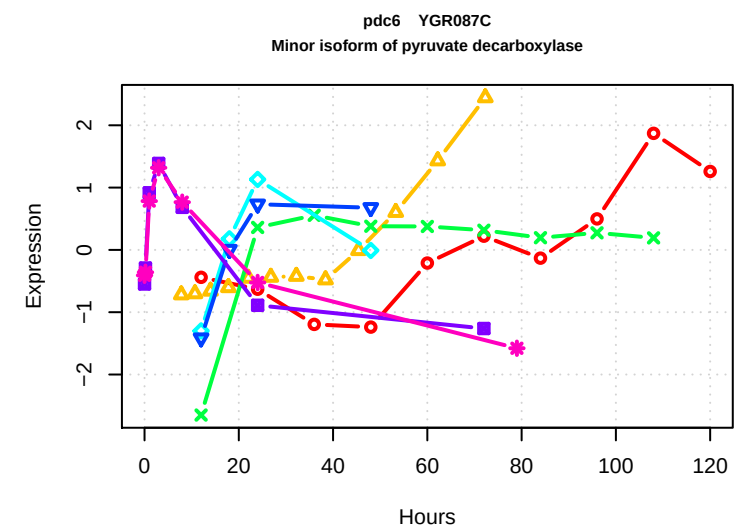
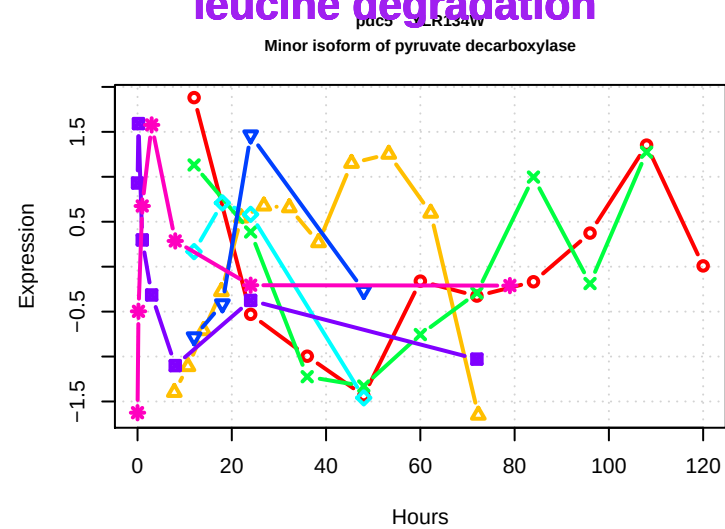
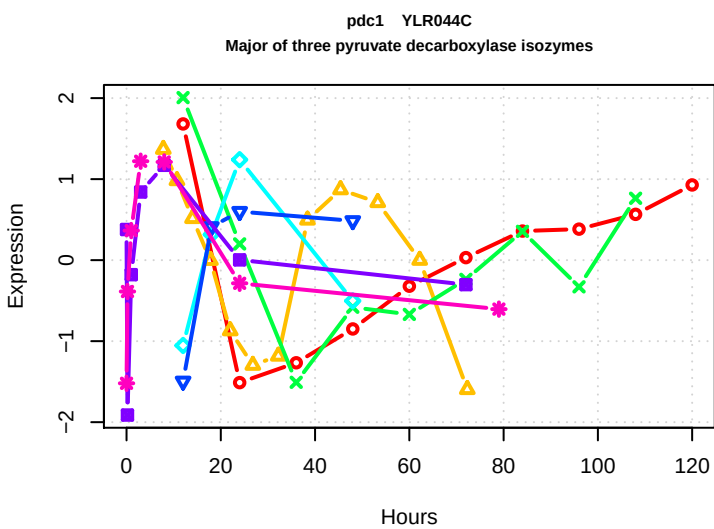
superpathway of ergosterol biosynthesis

superpathway of ergosterol biosynthesis

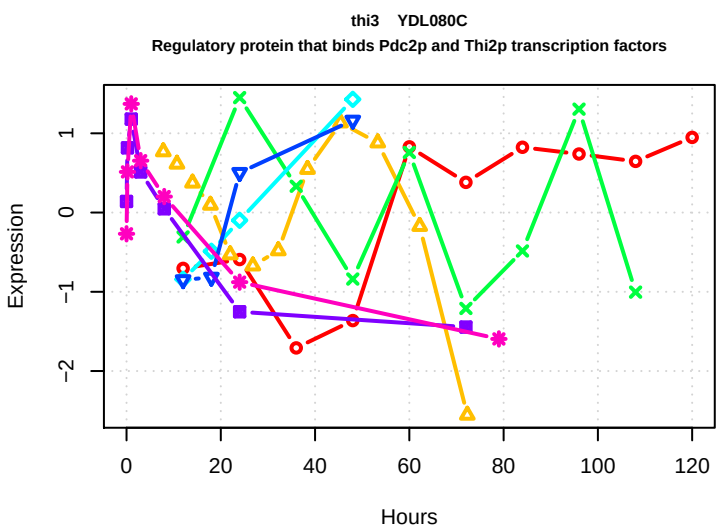
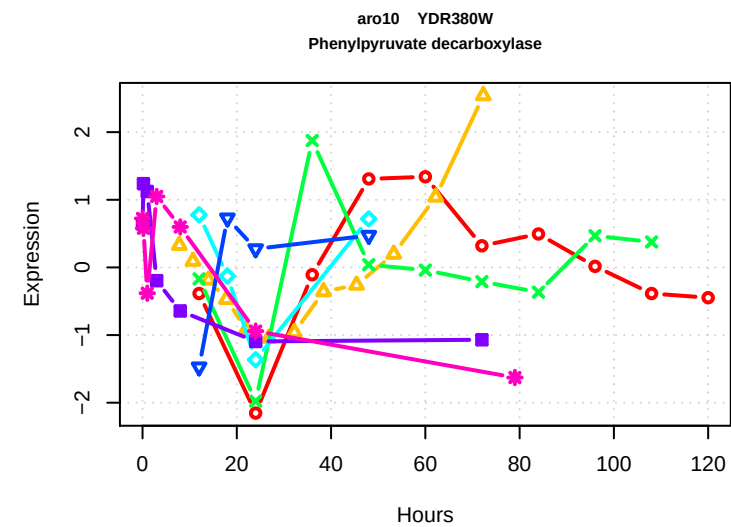
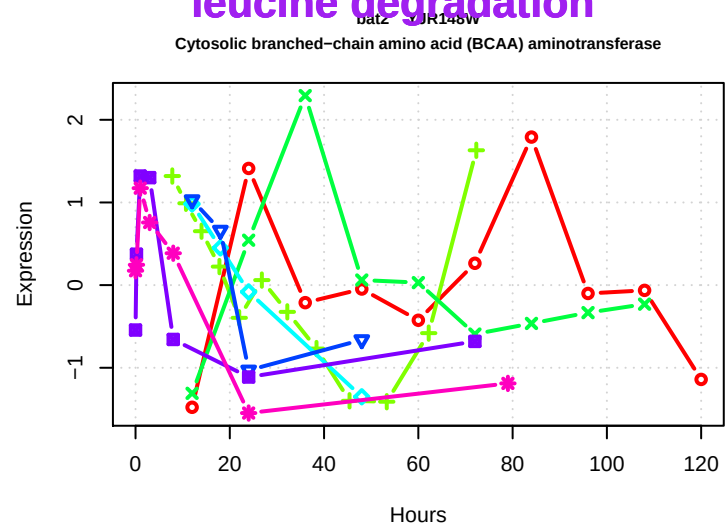
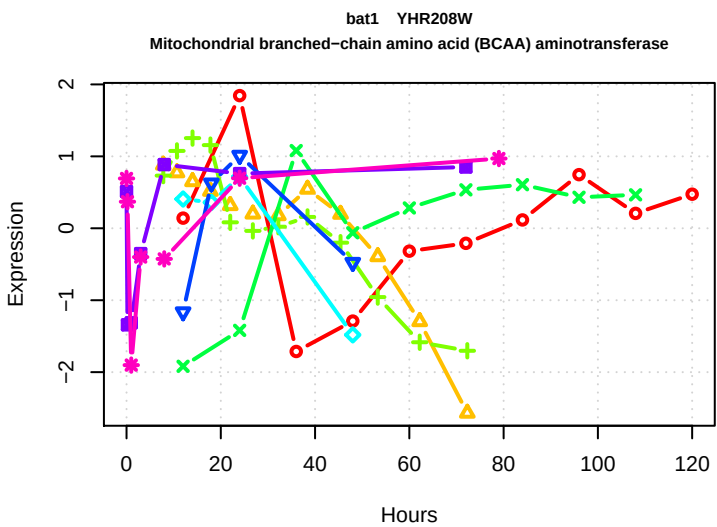


leucine degradation

leucine degradation

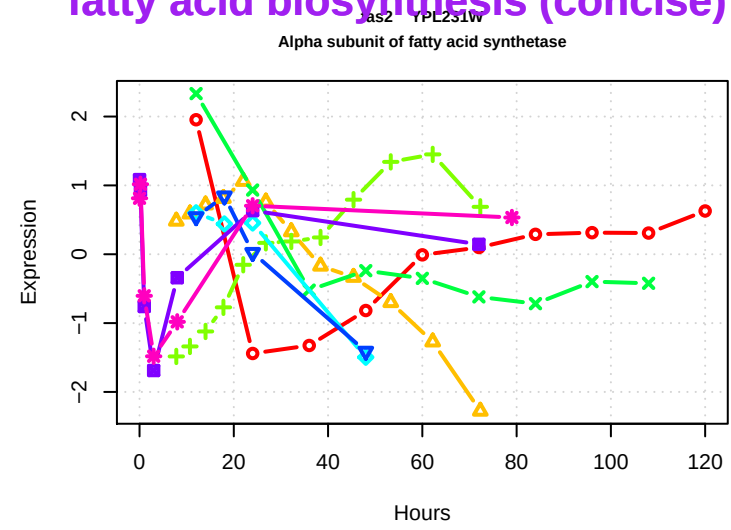
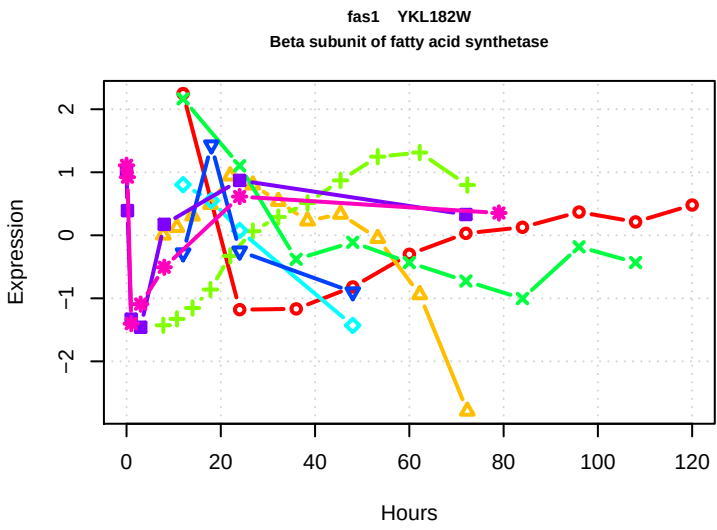


leucine degradation



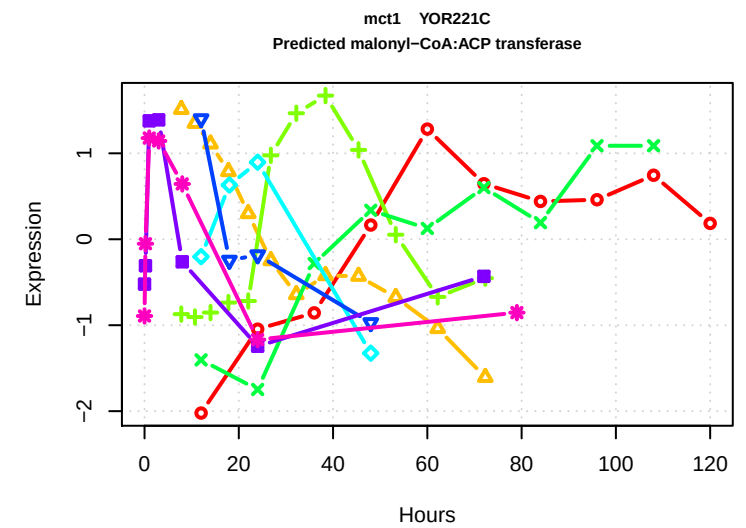
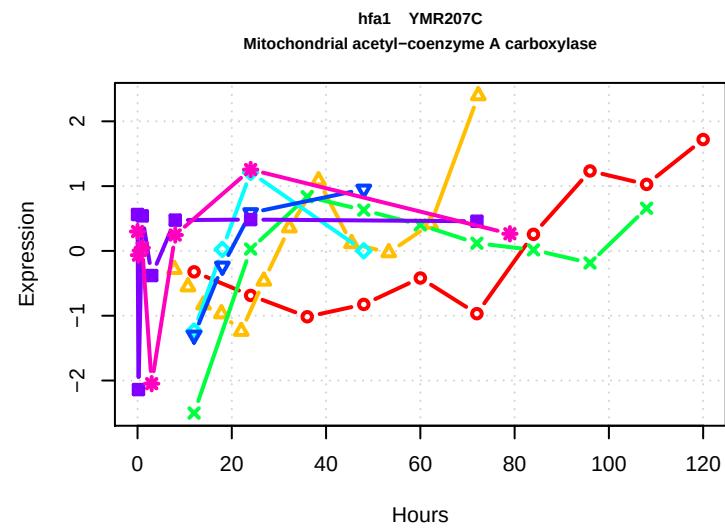
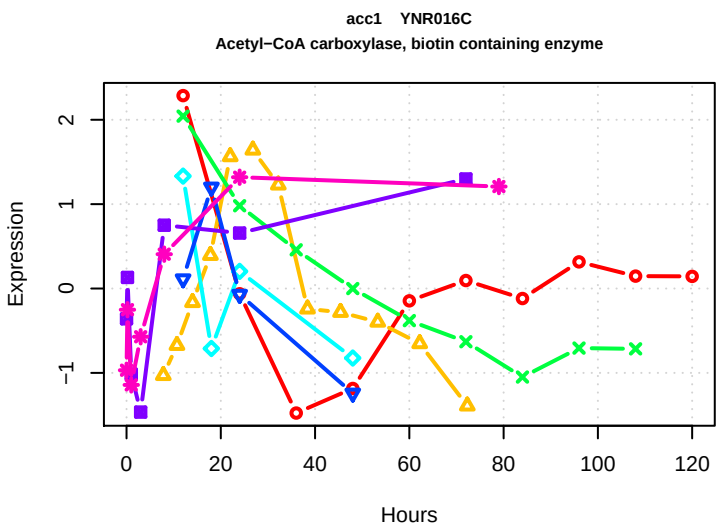
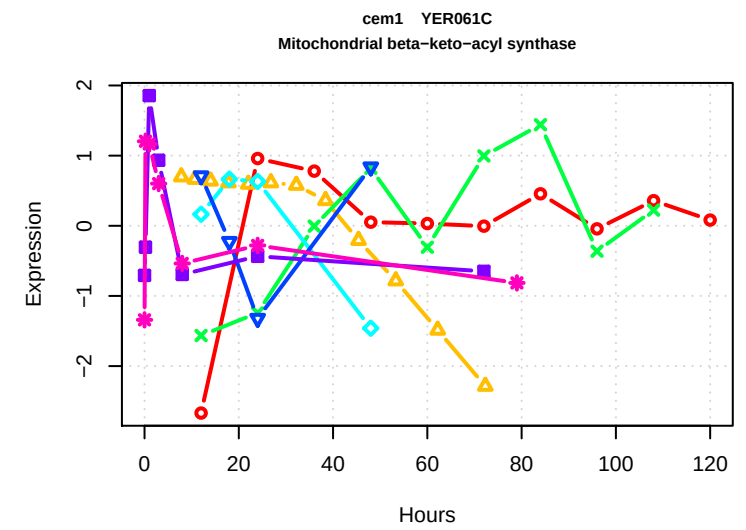
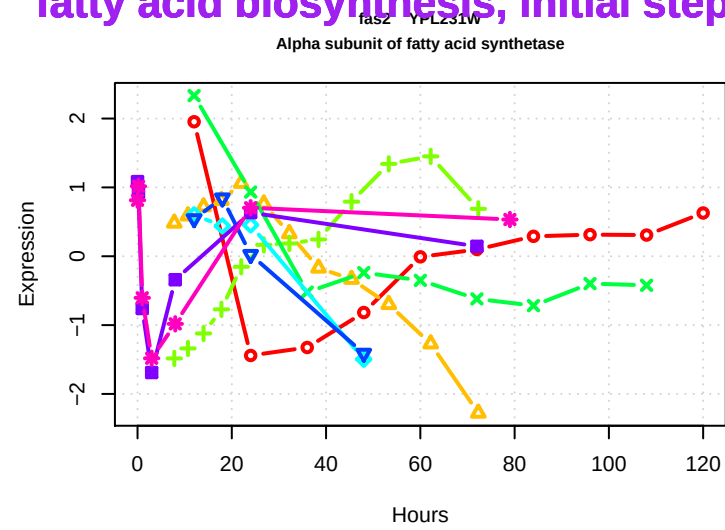
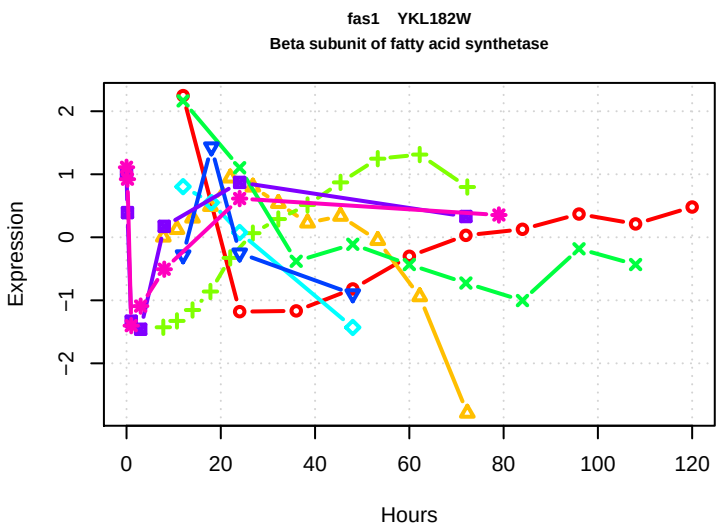
fatty acid biosynthesis (concise)

fatty acid biosynthesis (concise)



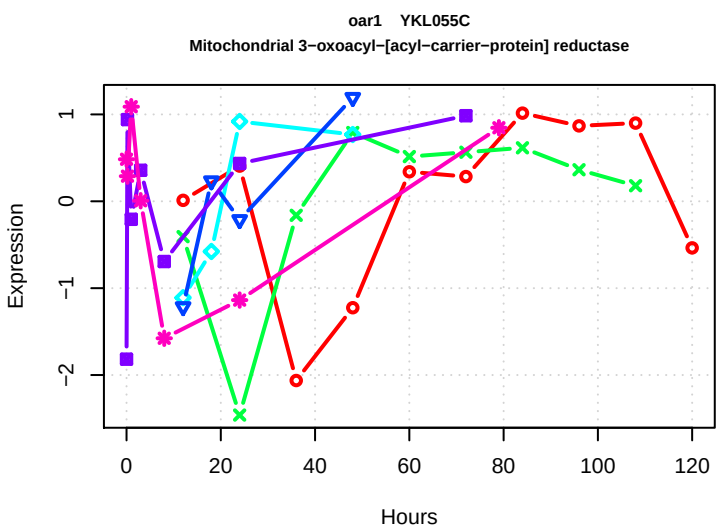
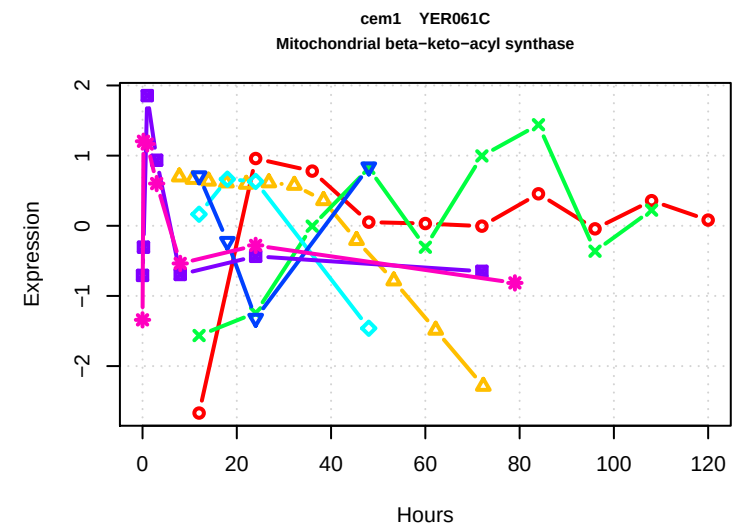
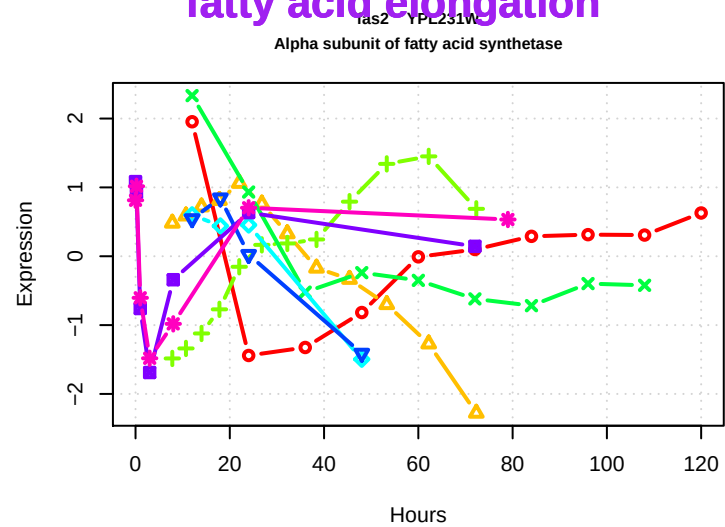
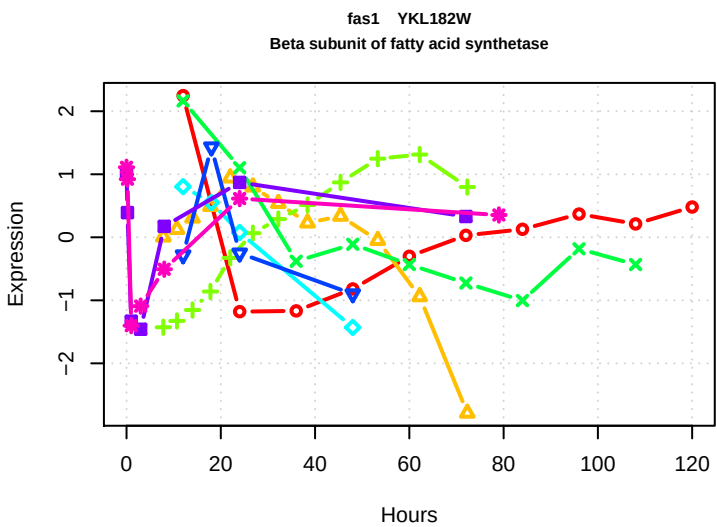
fatty acid biosynthesis, initial steps

fatty acid biosynthesis, initial steps



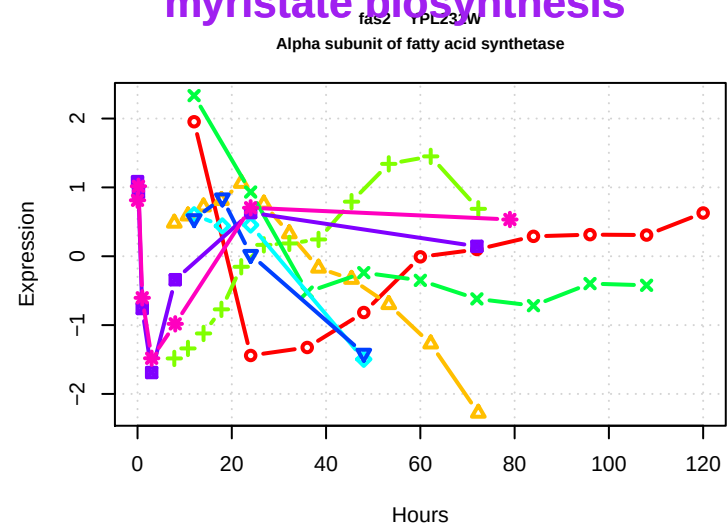
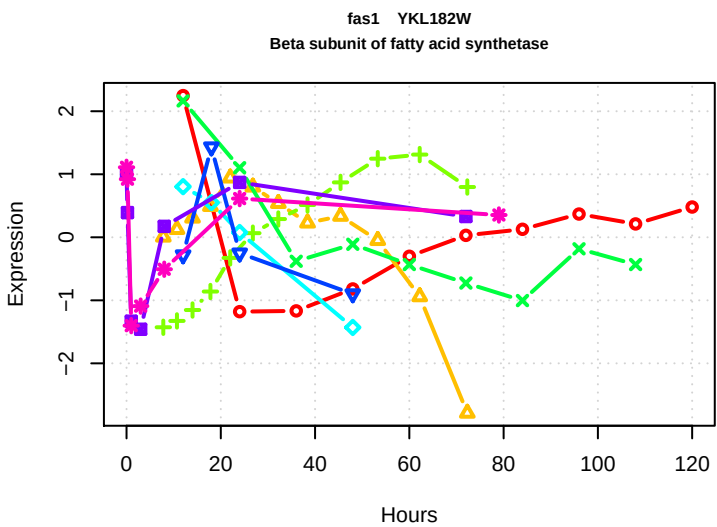
fatty acid elongation

fatty acid elongation



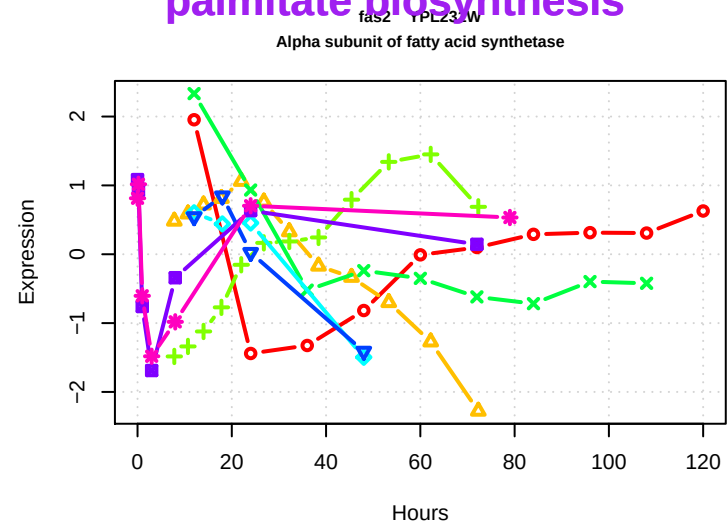
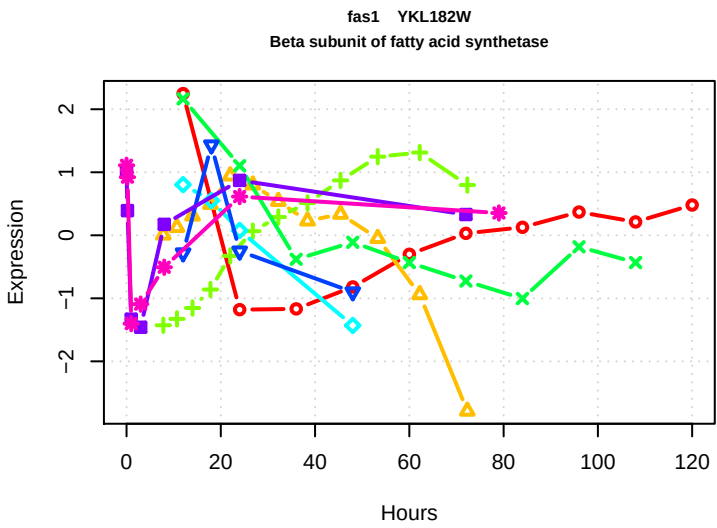
myristate biosynthesis

myristate biosynthesis



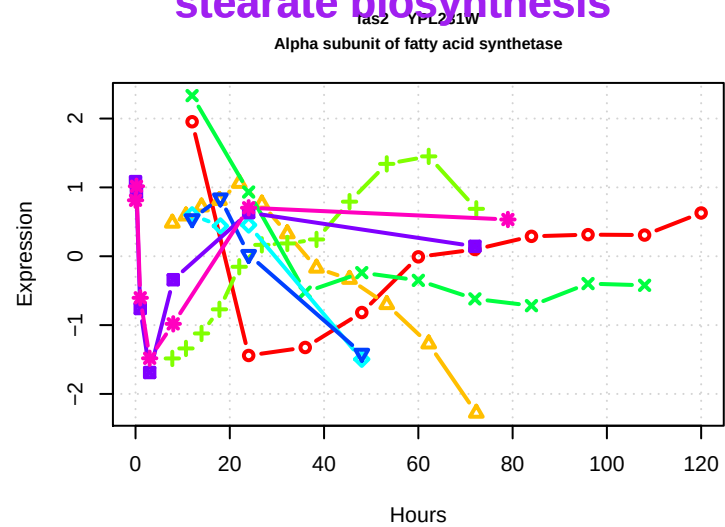
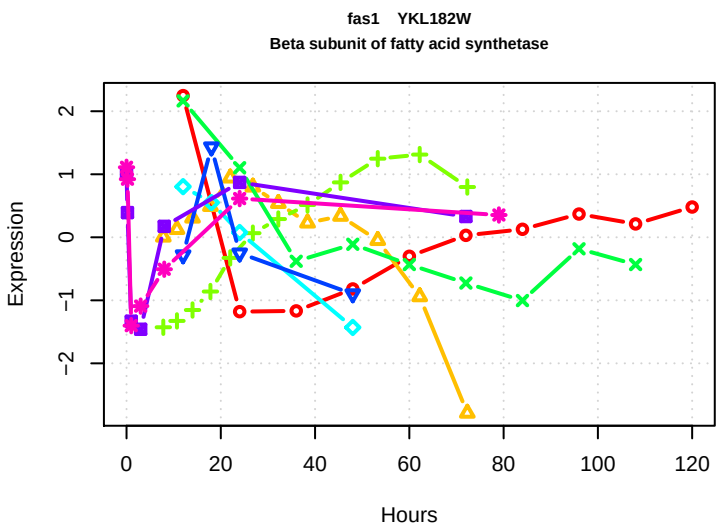
palmitate biosynthesis

palmitate biosynthesis



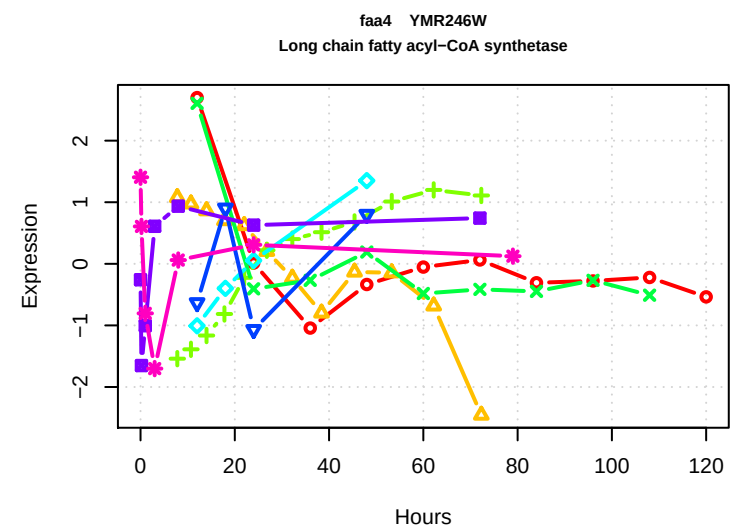
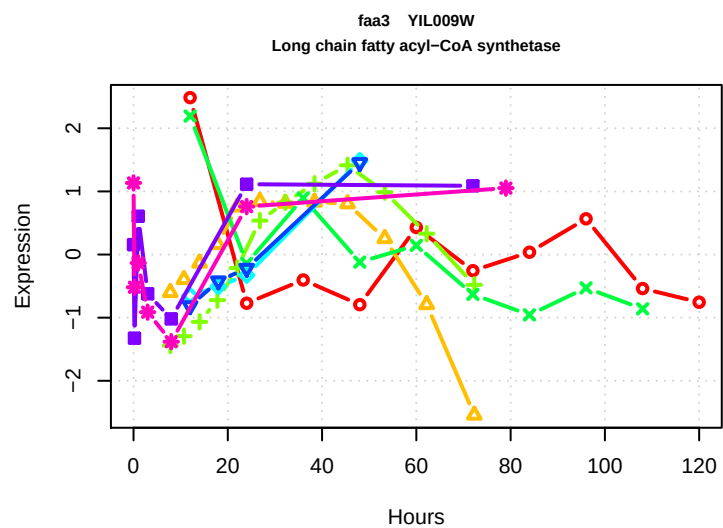
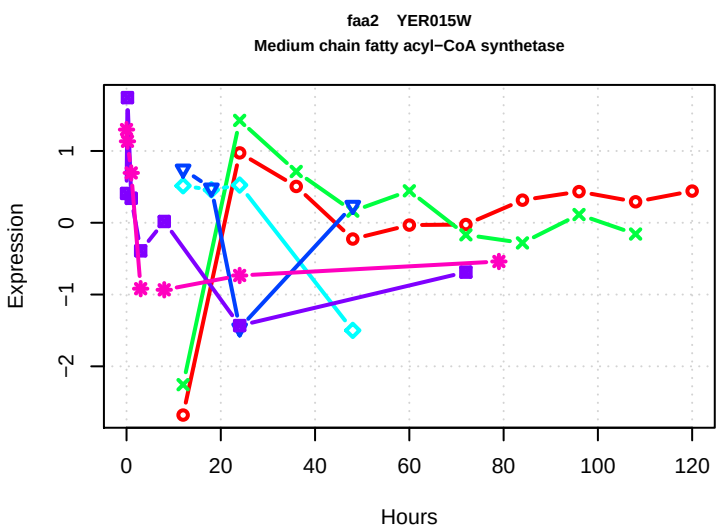
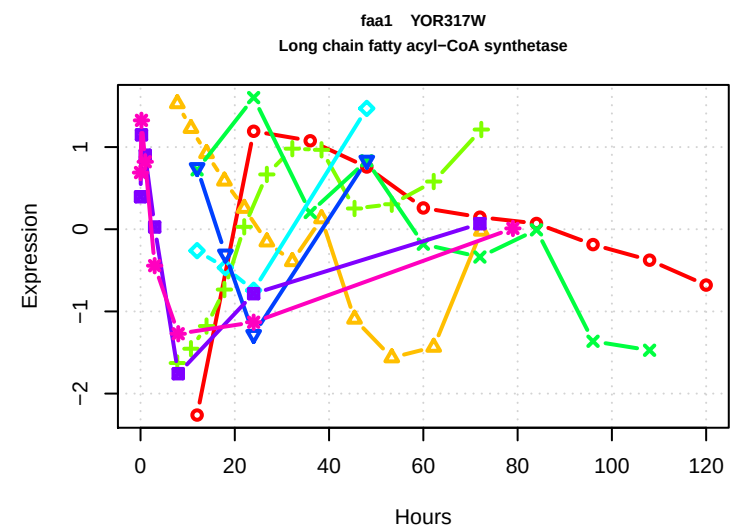
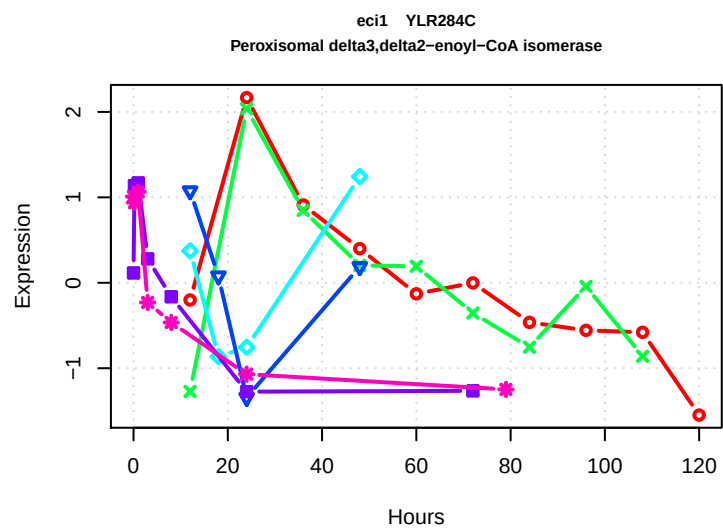
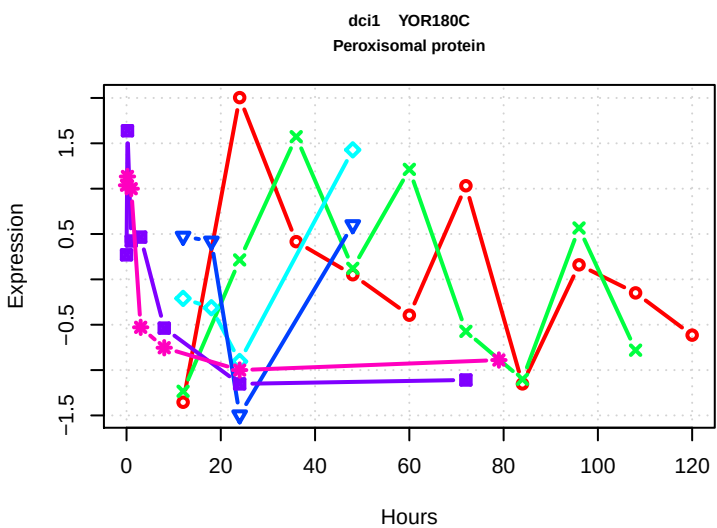
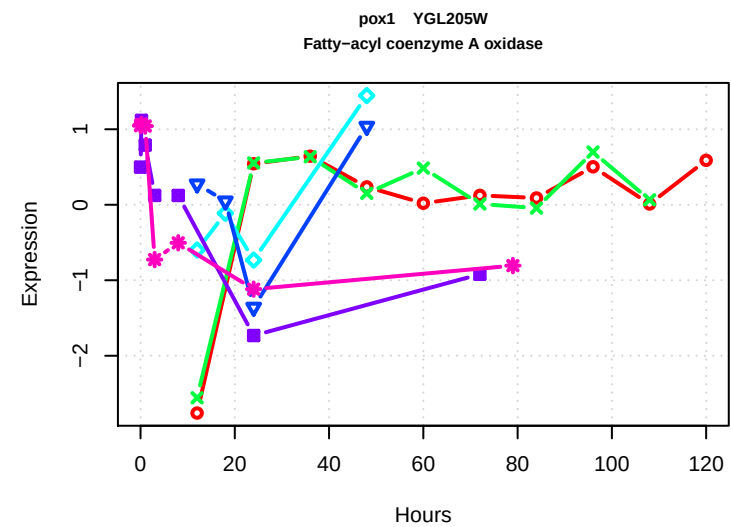
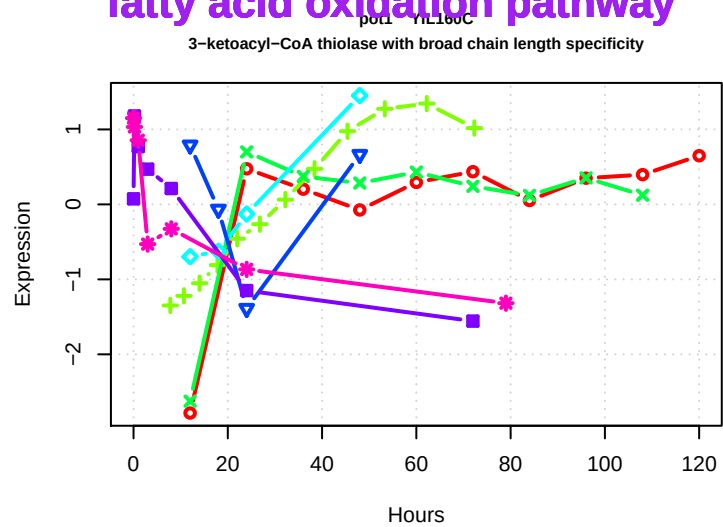
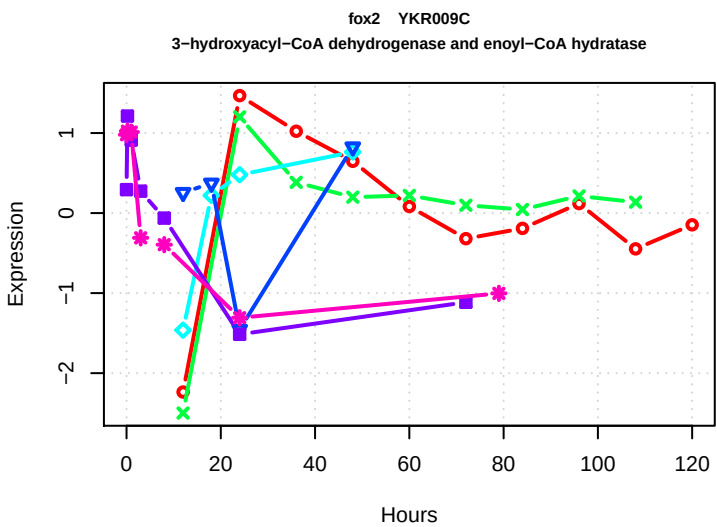
stearate biosynthesis

stearate biosynthesis

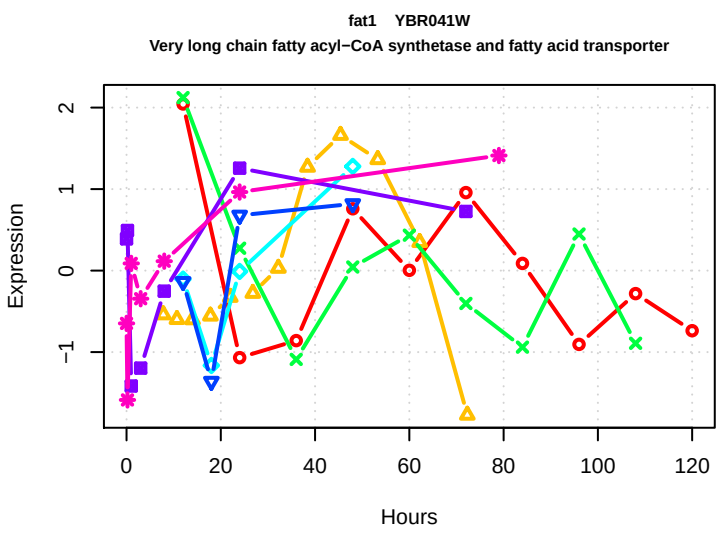


fatty acid oxidation pathway

fatty acid oxidation pathway

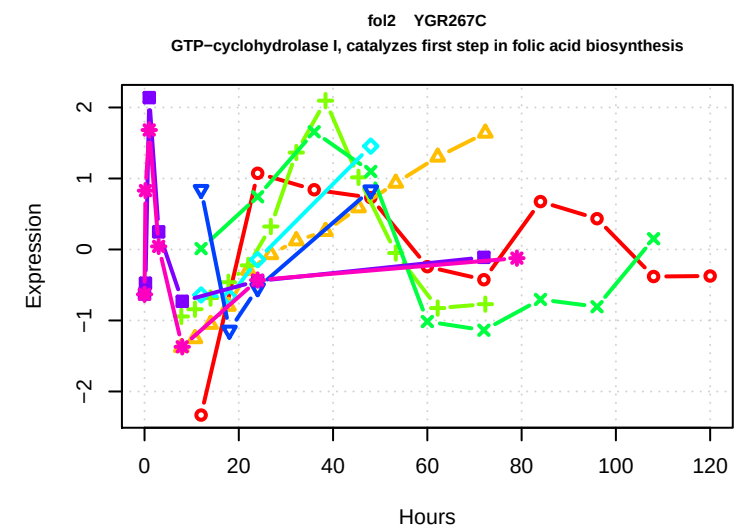
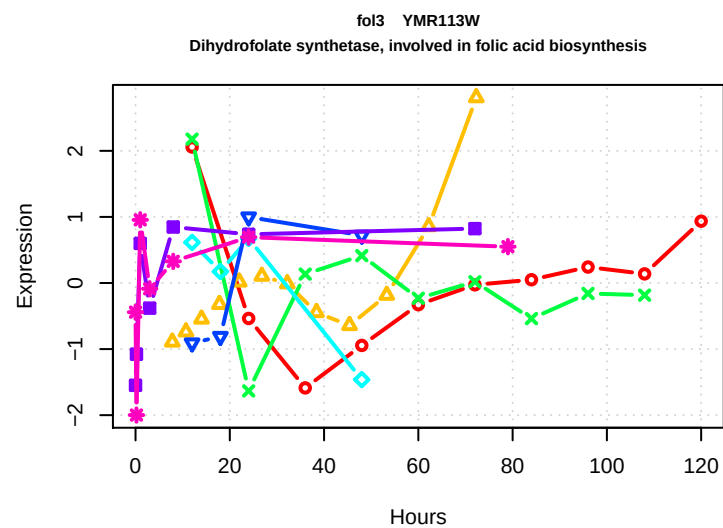
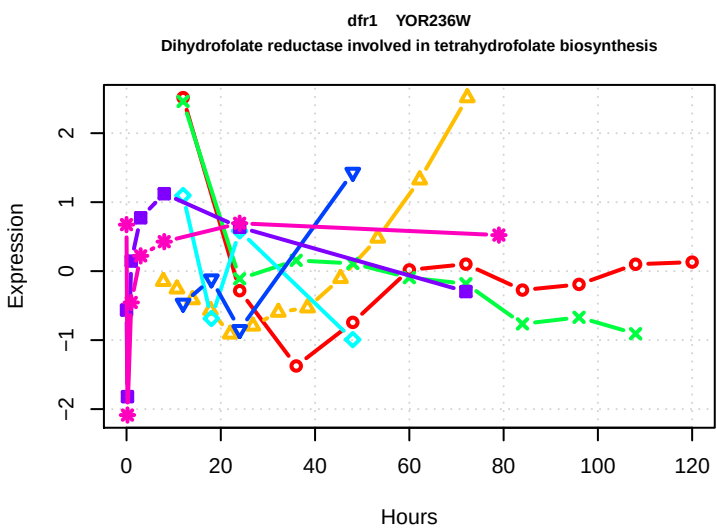
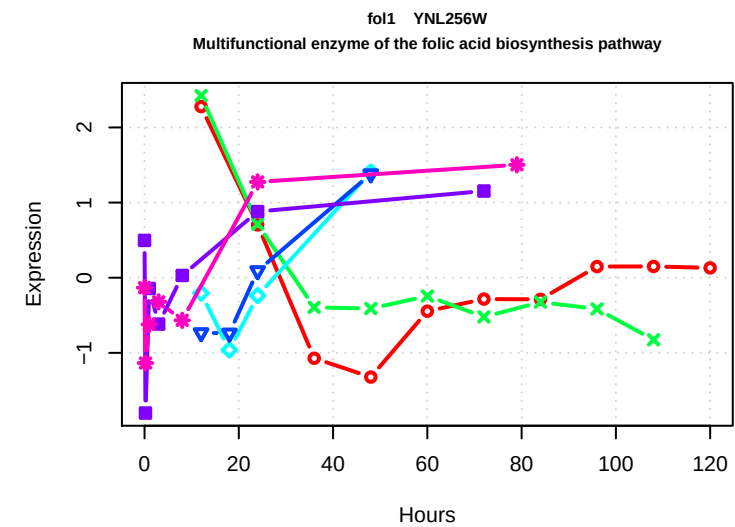
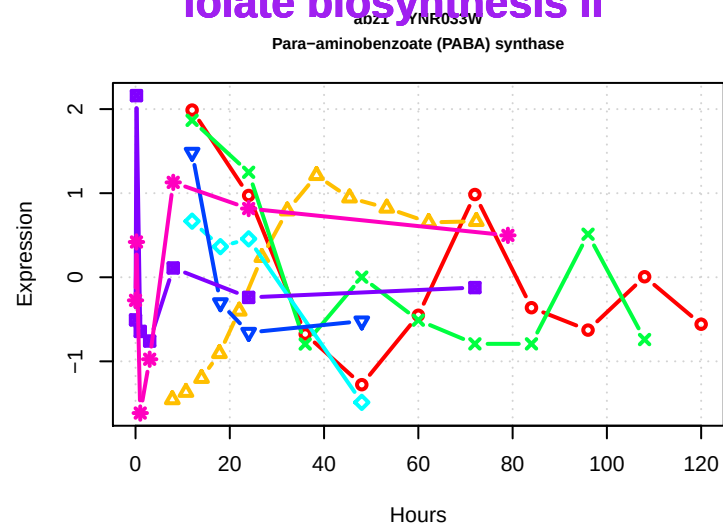
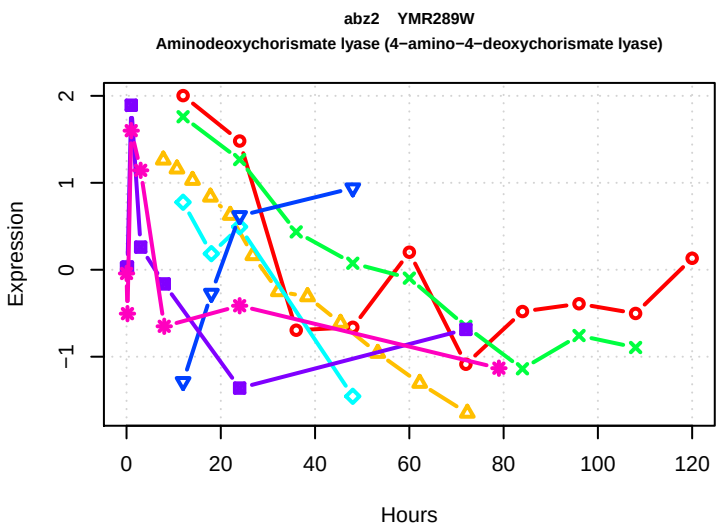


fatty acid oxidation pathway



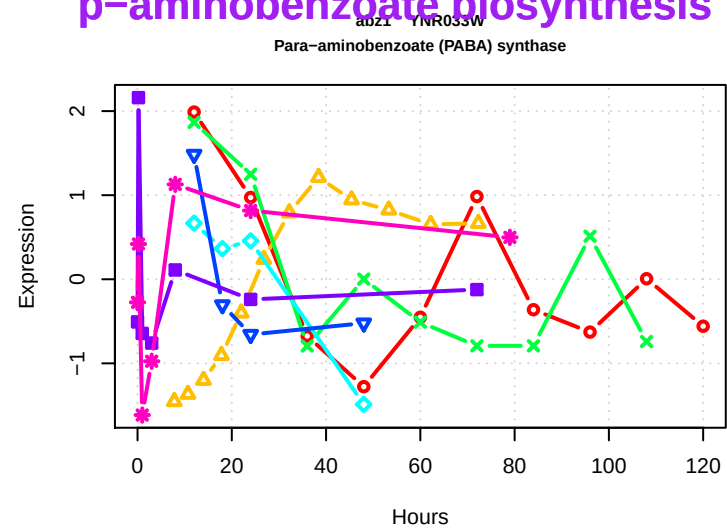
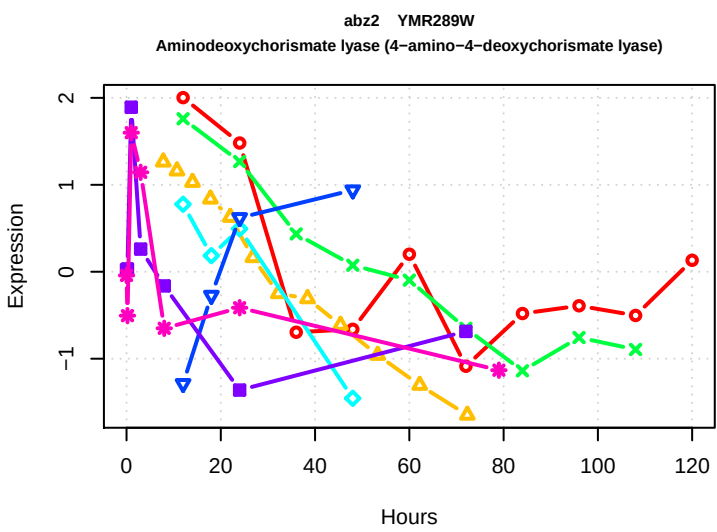
folate biosynthesis II

folate biosynthesis II



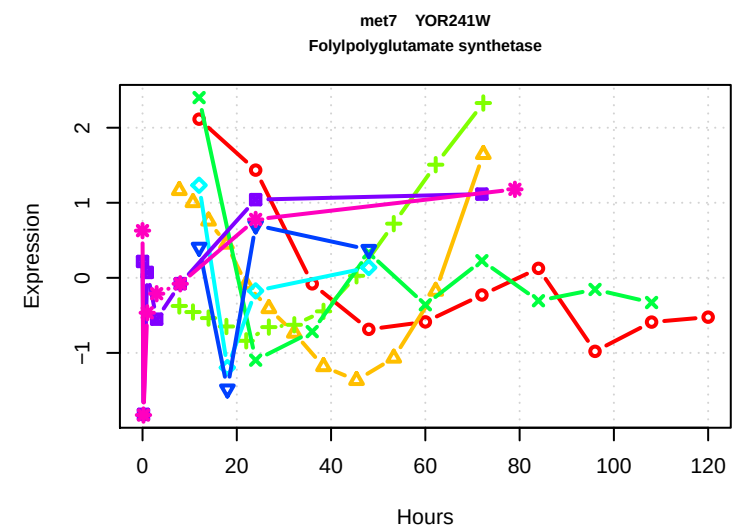
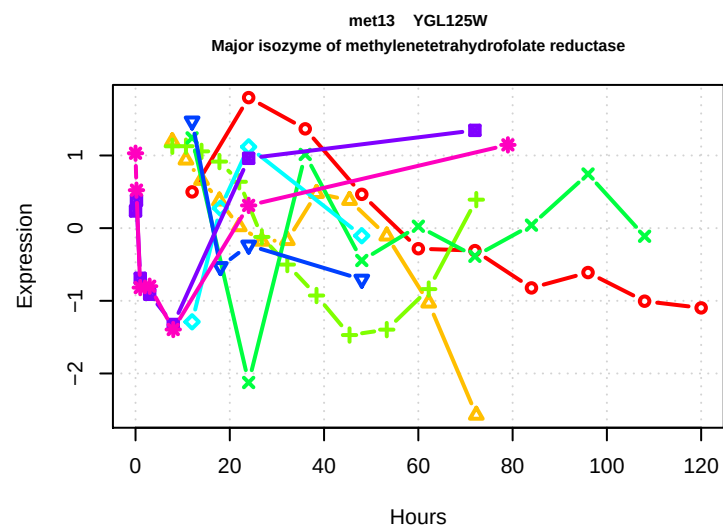
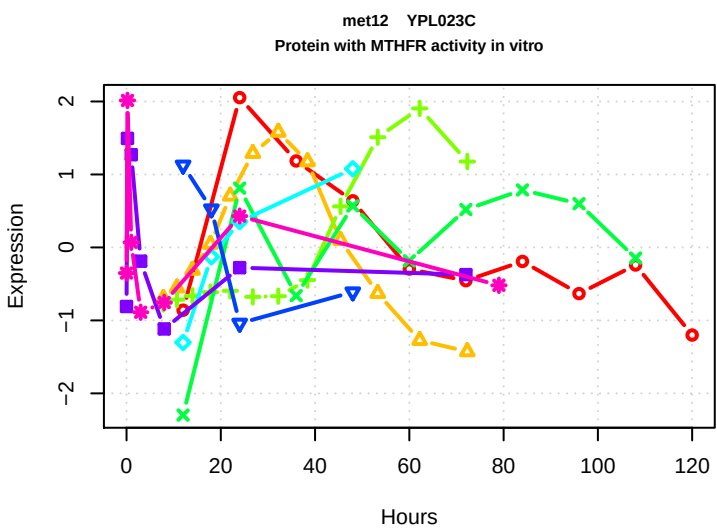
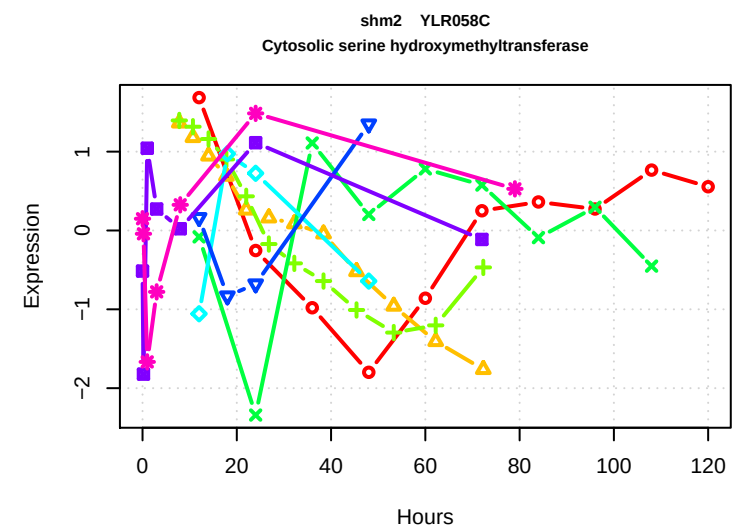
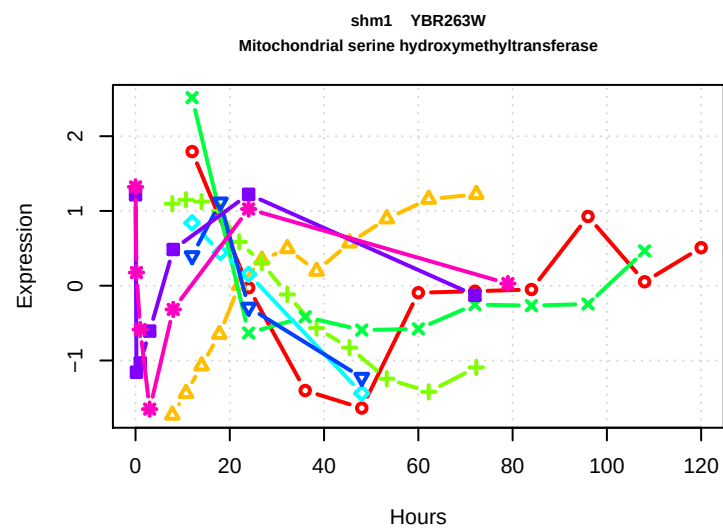
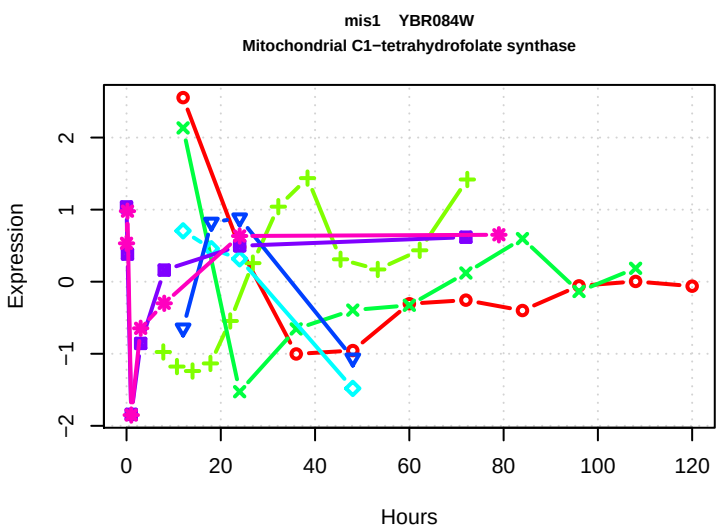
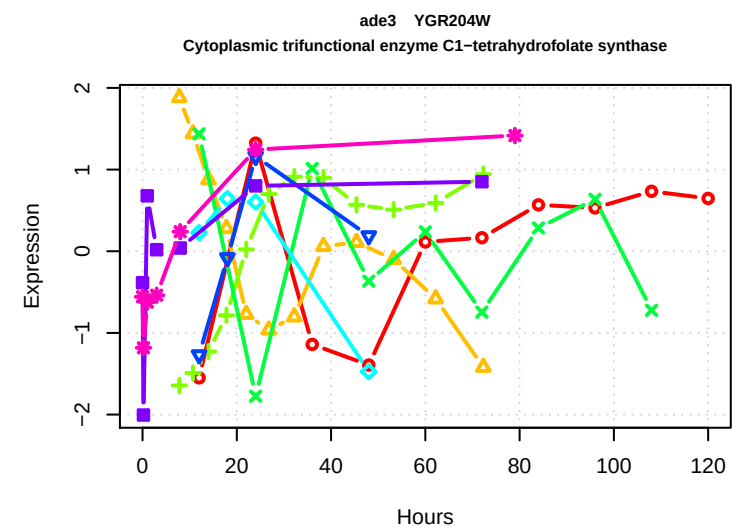
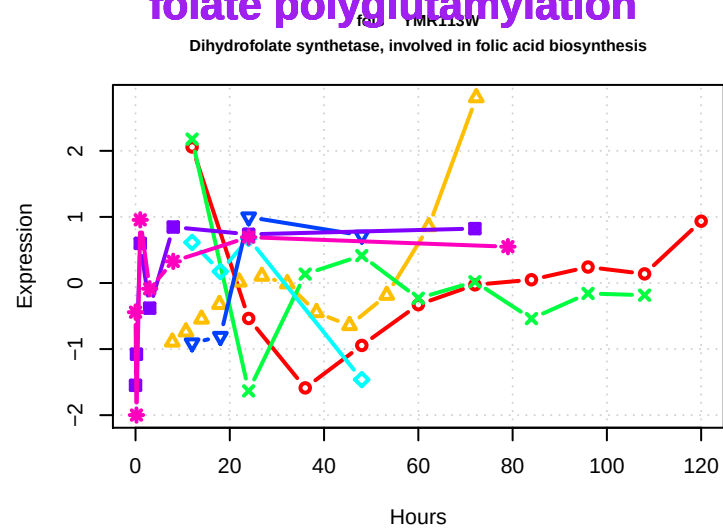
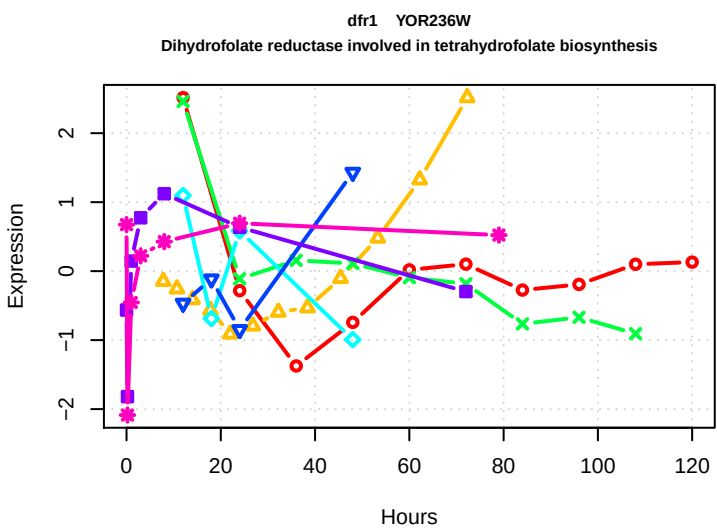
p-aminobenzoate biosynthesis

p-aminobenzoate biosynthesis



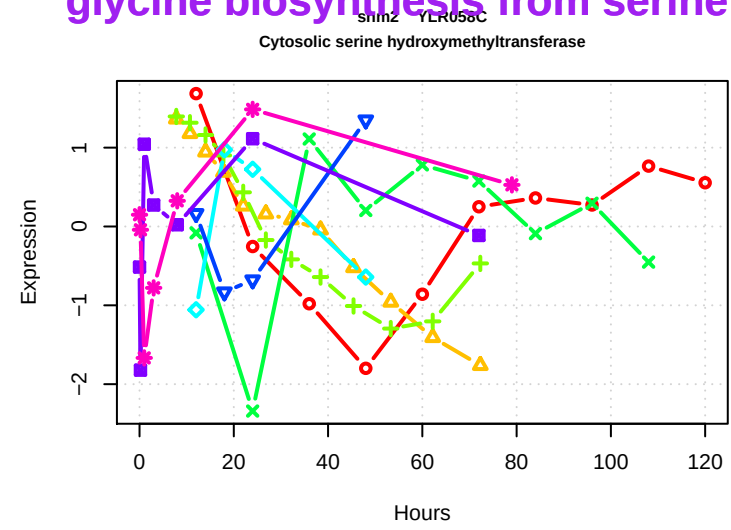
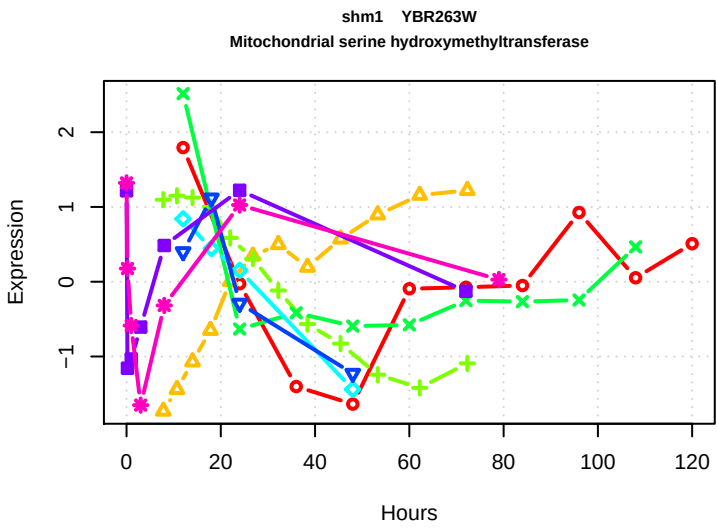
folate polyglutamylation

folate polyglutamylation



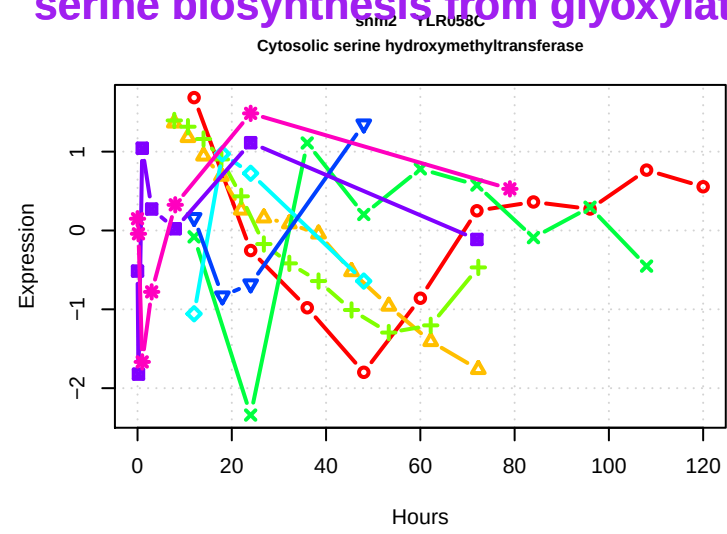
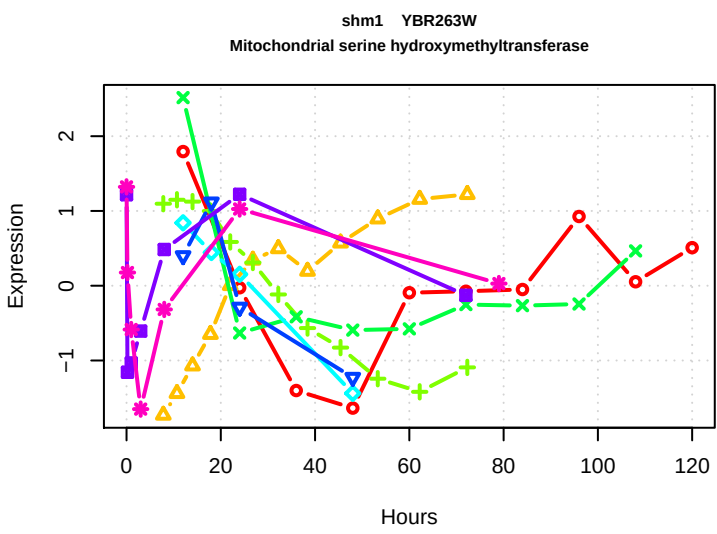
glycine biosynthesis from serine

glycine biosynthesis from serine



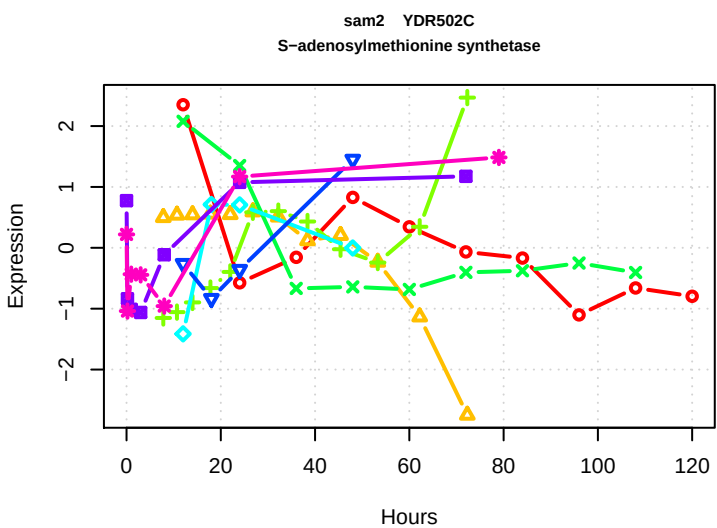
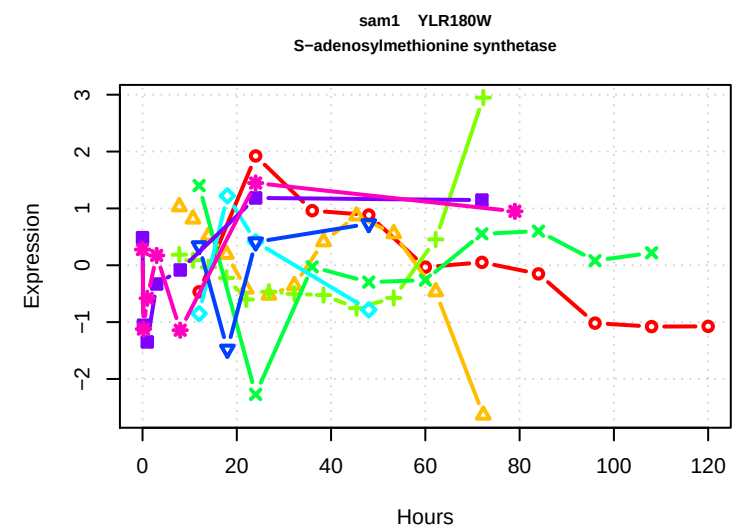
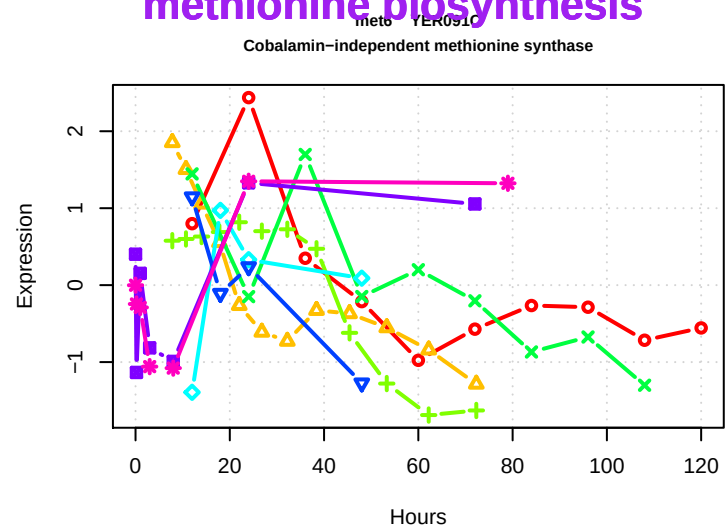
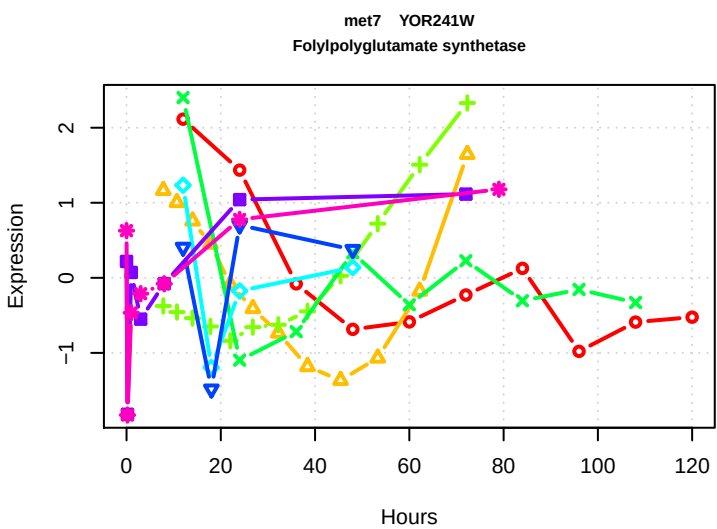
serine biosynthesis from glyoxylate

serine biosynthesis from glyoxylate



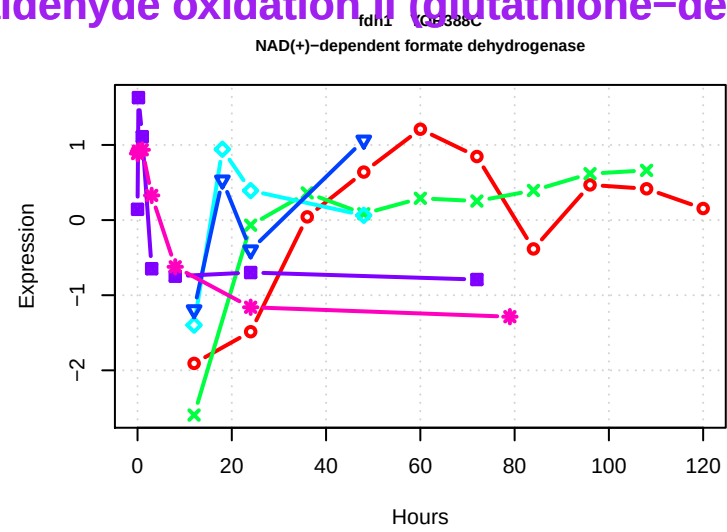
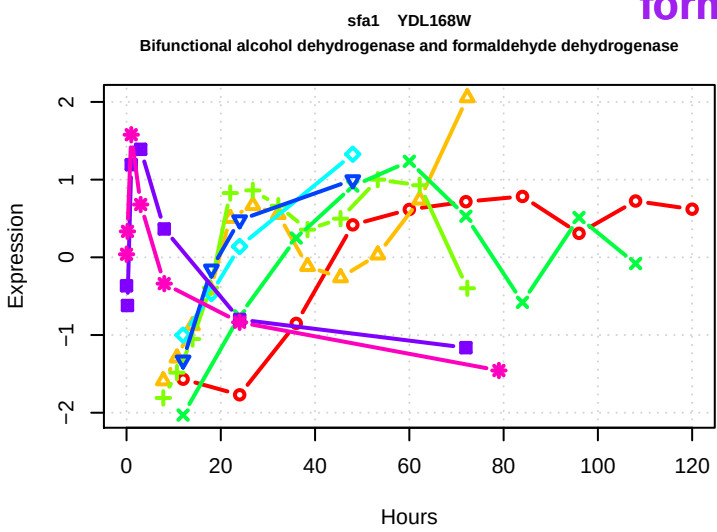
methionine biosynthesis

methionine biosynthesis



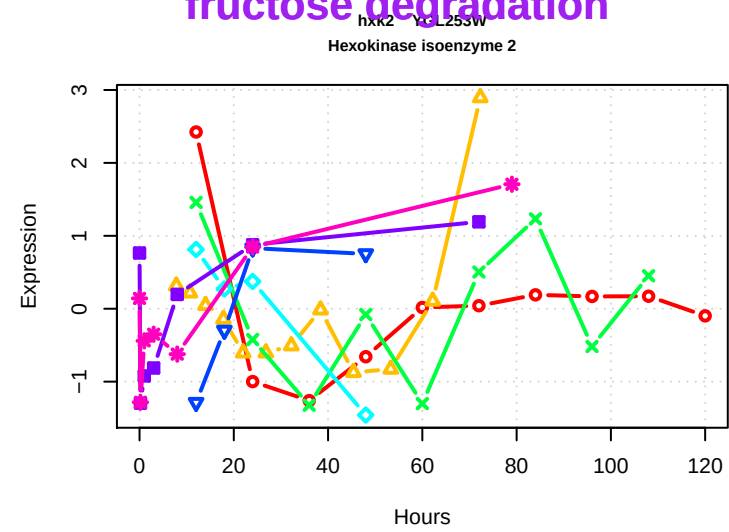
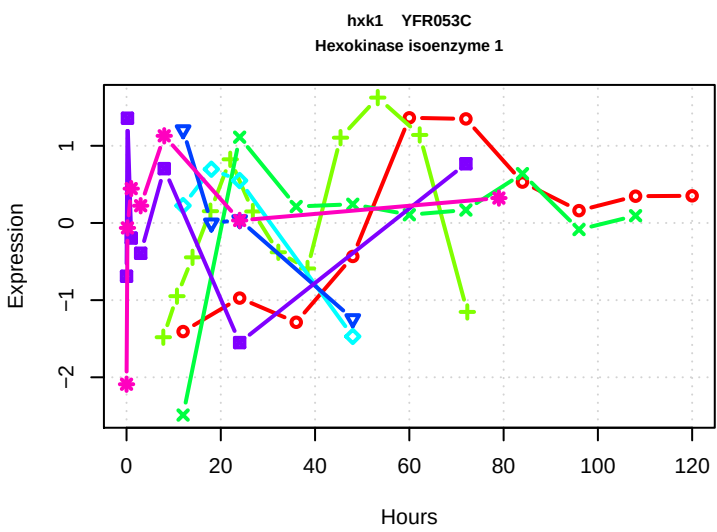
formaldehyde oxidation II (glutathione-dependent)

formaldehyde oxidation II (glutathione-dependent)



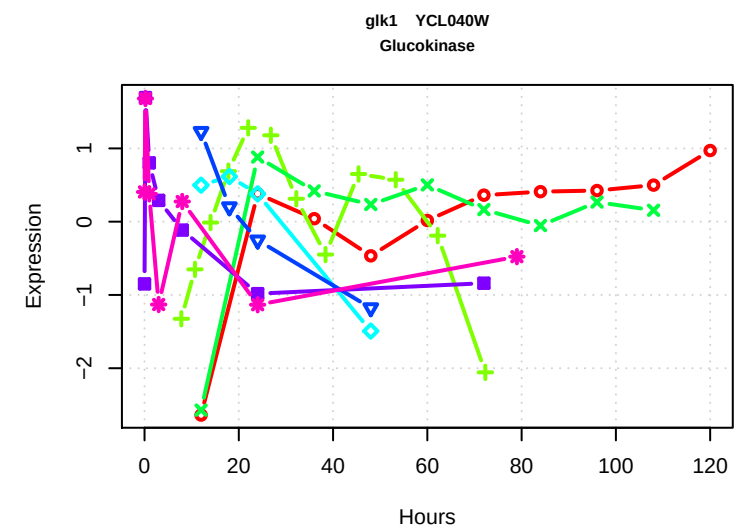
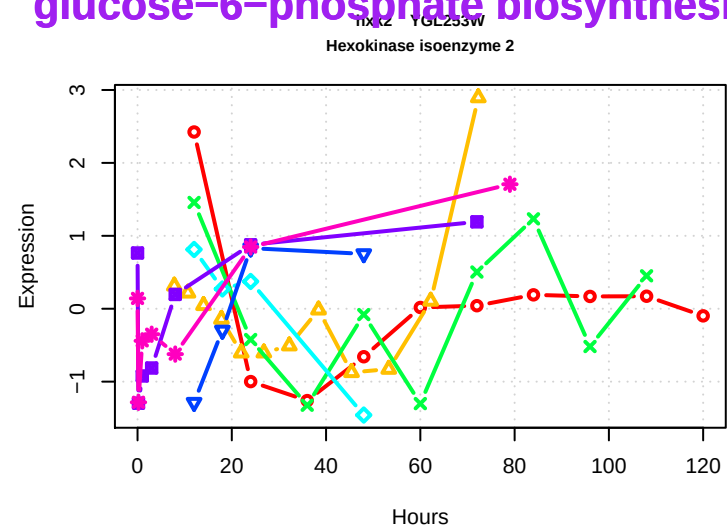
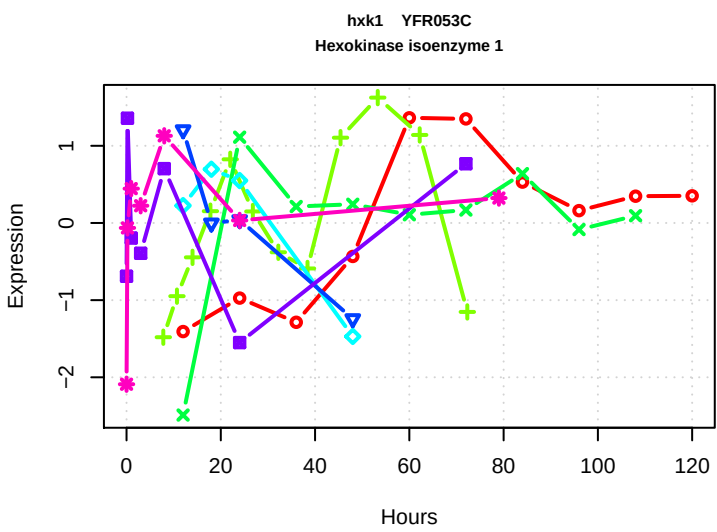
fructose degradation

fructose degradation



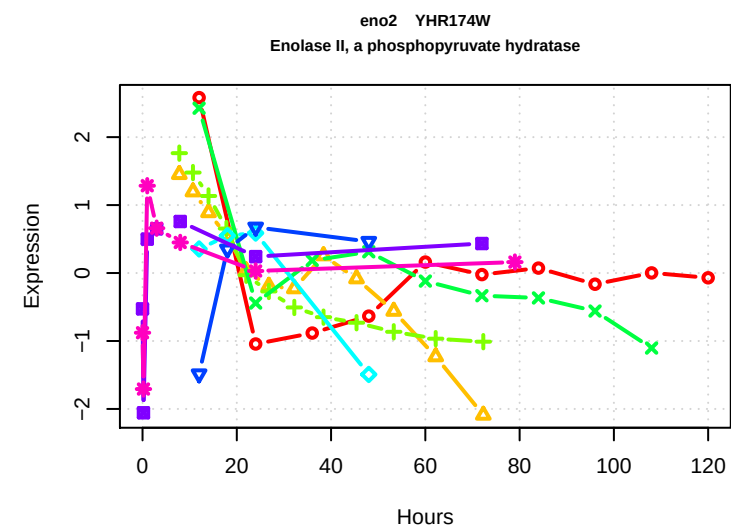
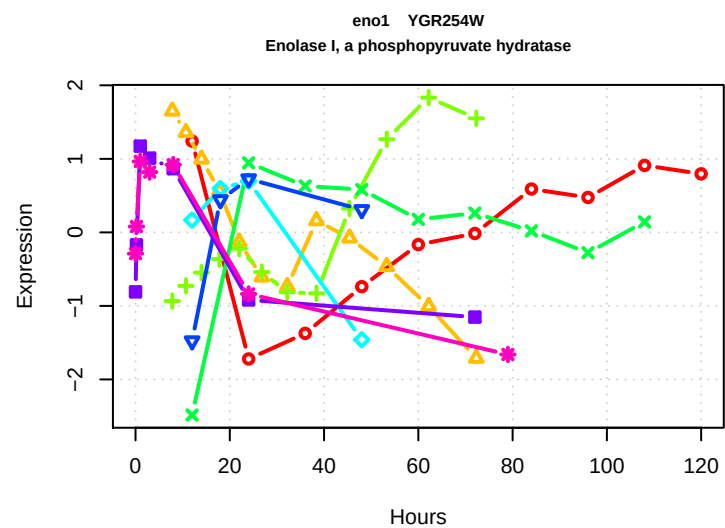
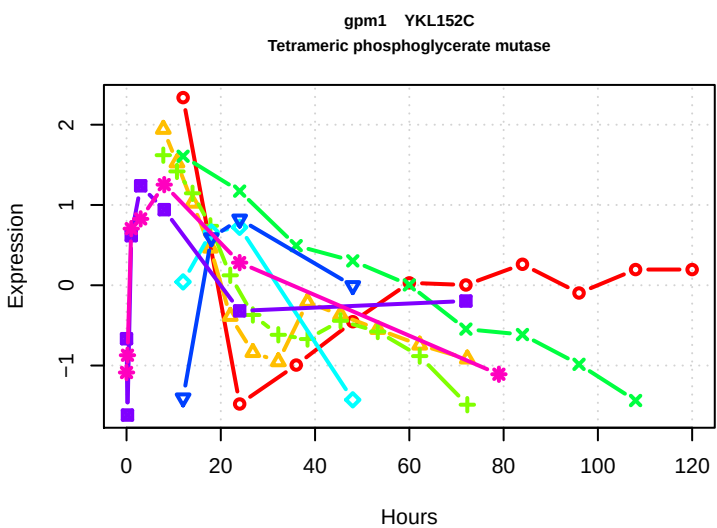
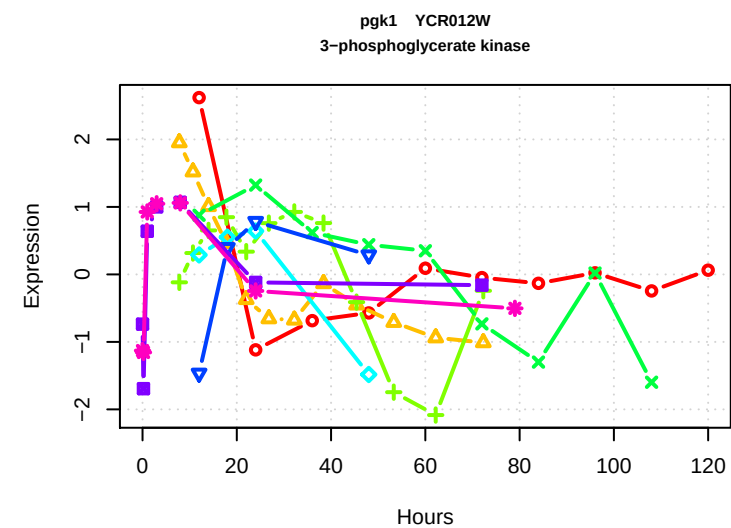
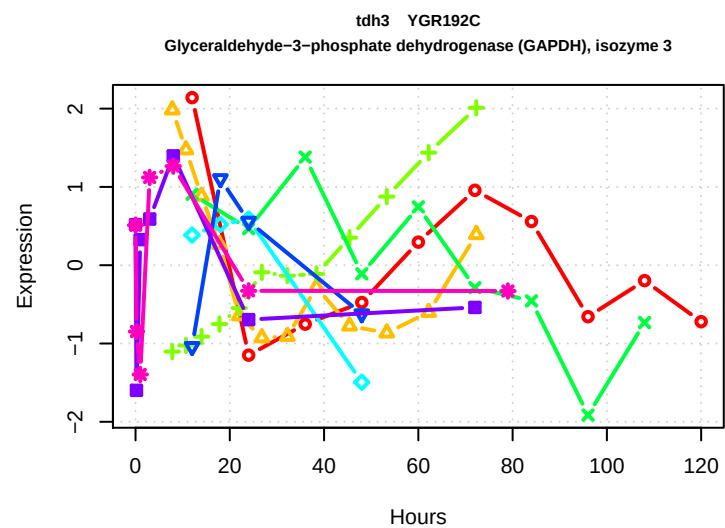
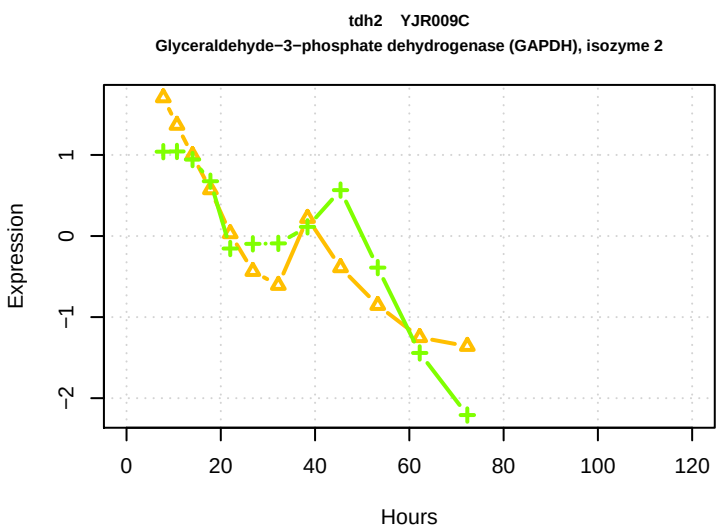
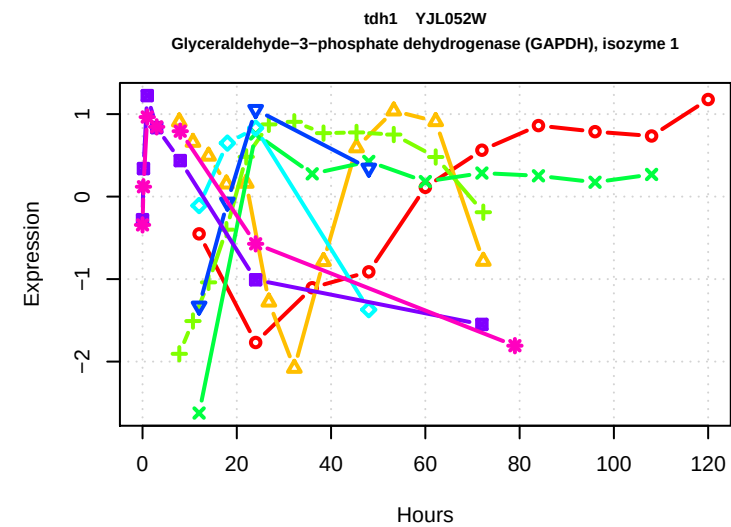
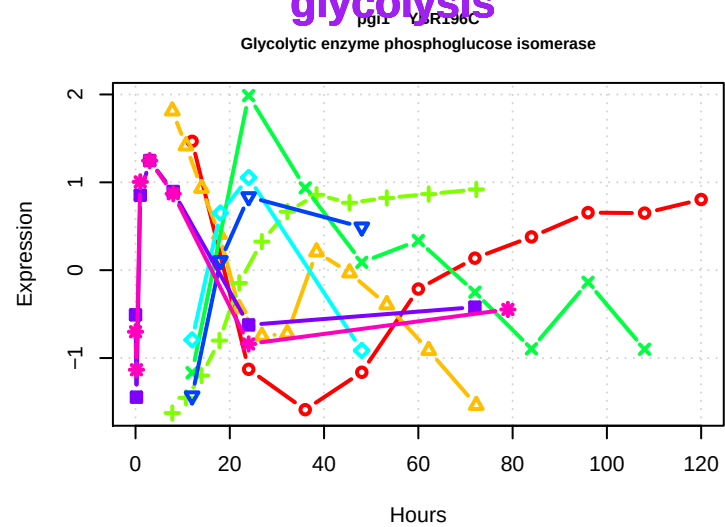
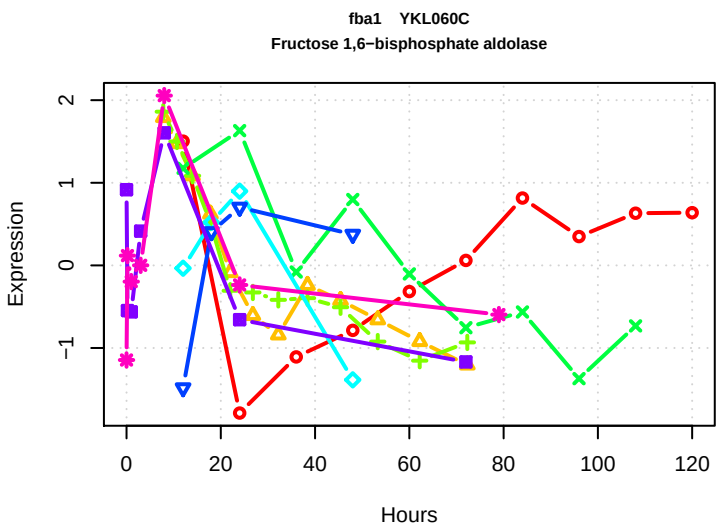
glucose-6-phosphate biosynthesis

glucose-6-phosphate biosynthesis

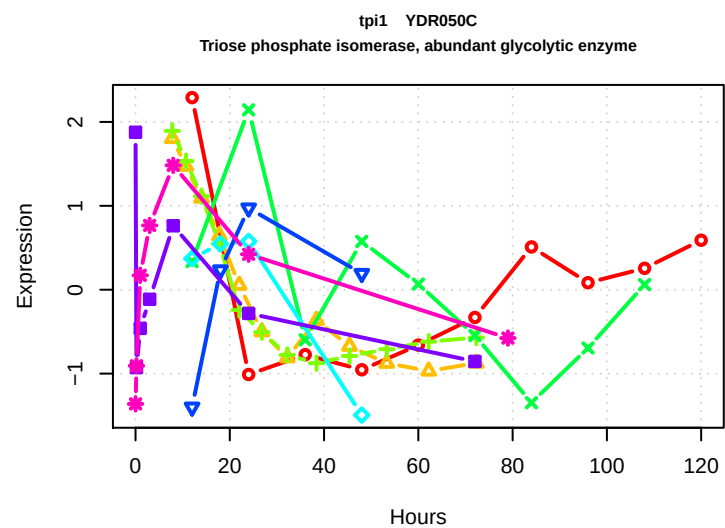
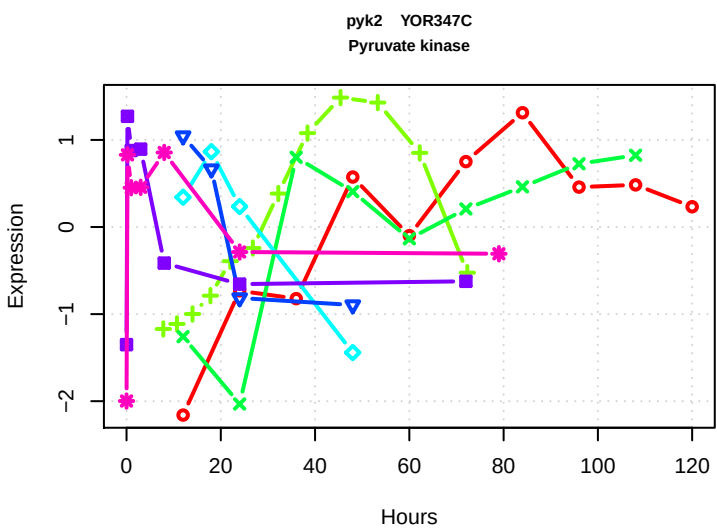
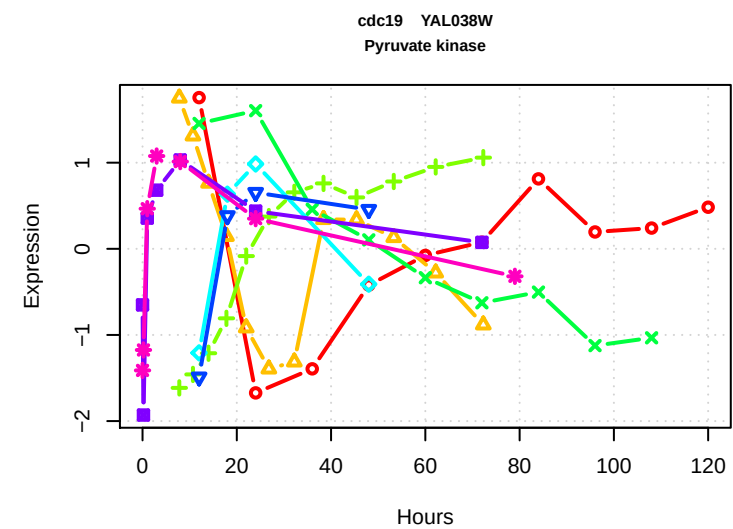
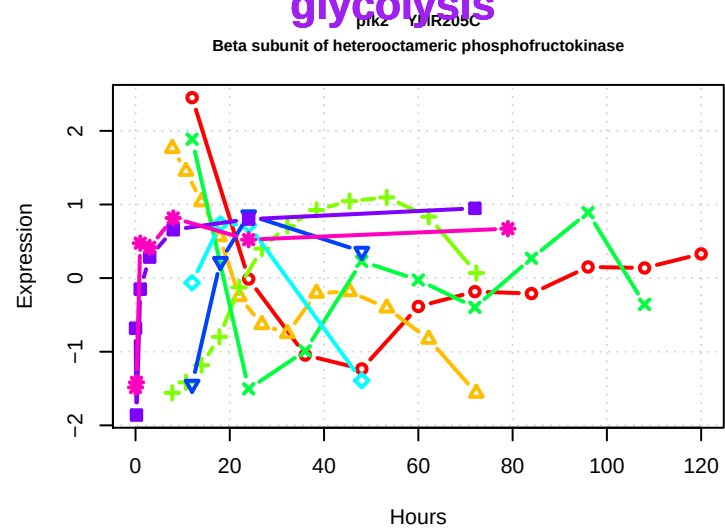
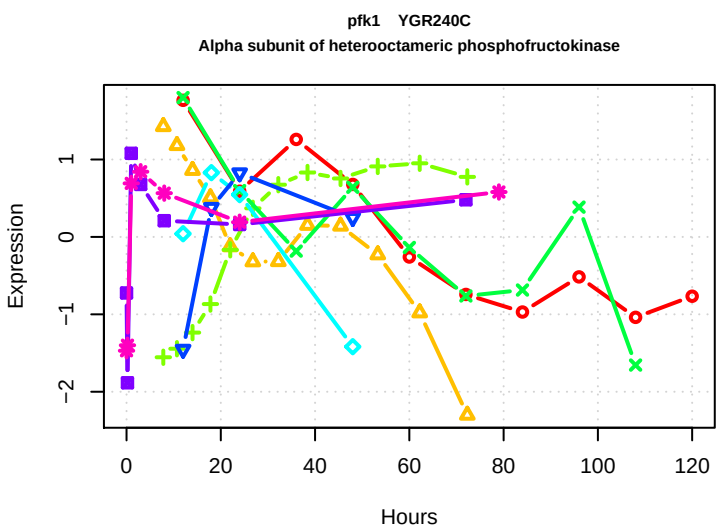


glycolysis

glycolysis

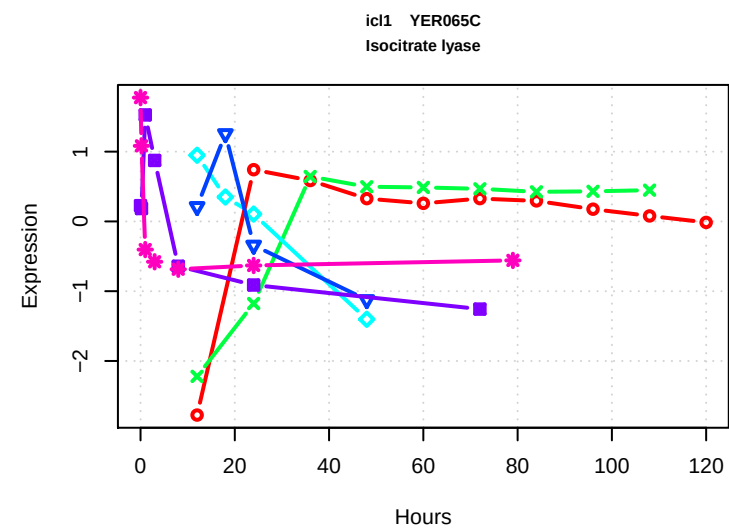
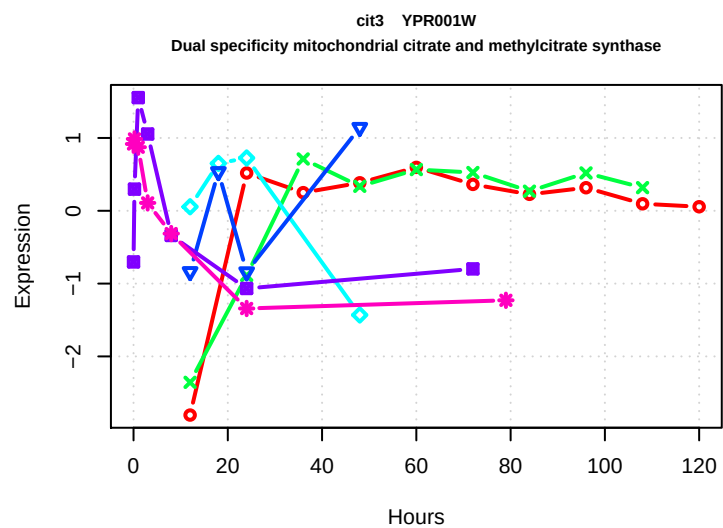
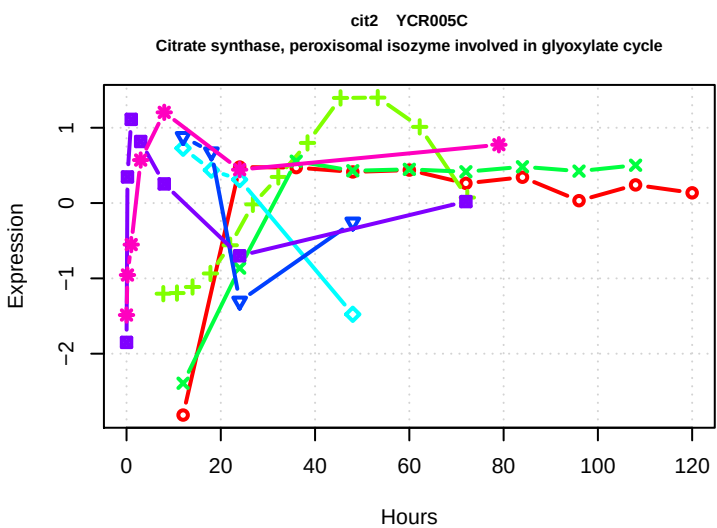
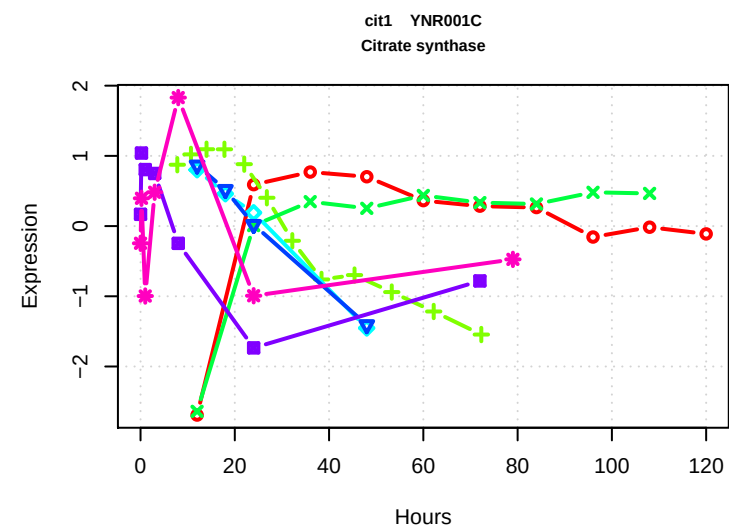
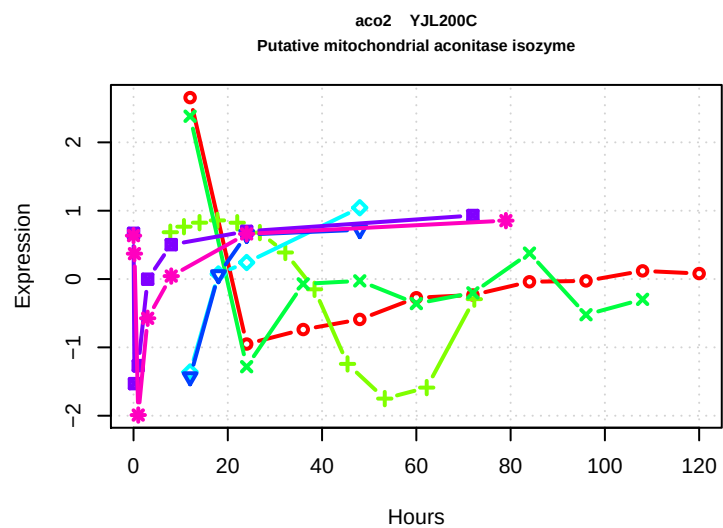
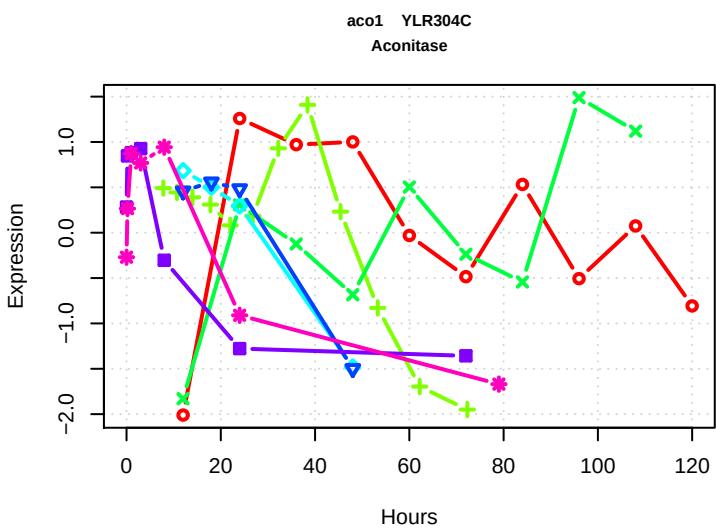
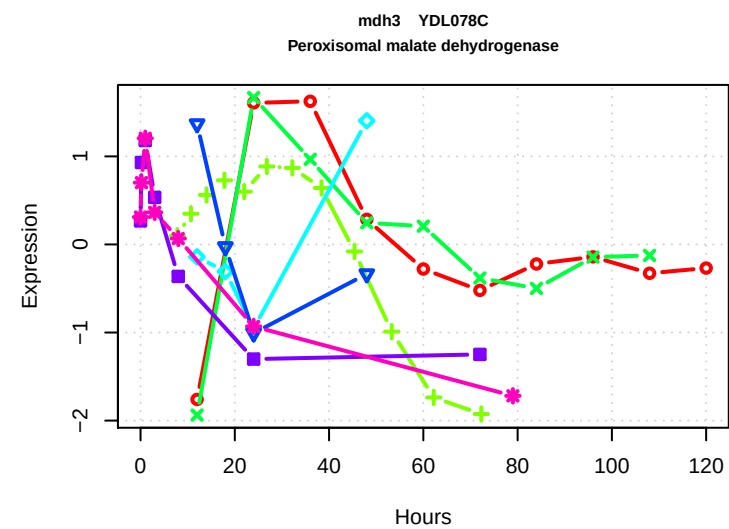
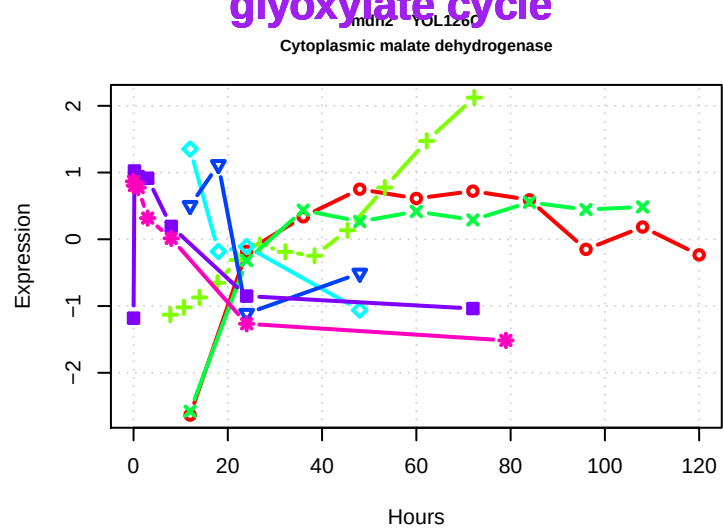
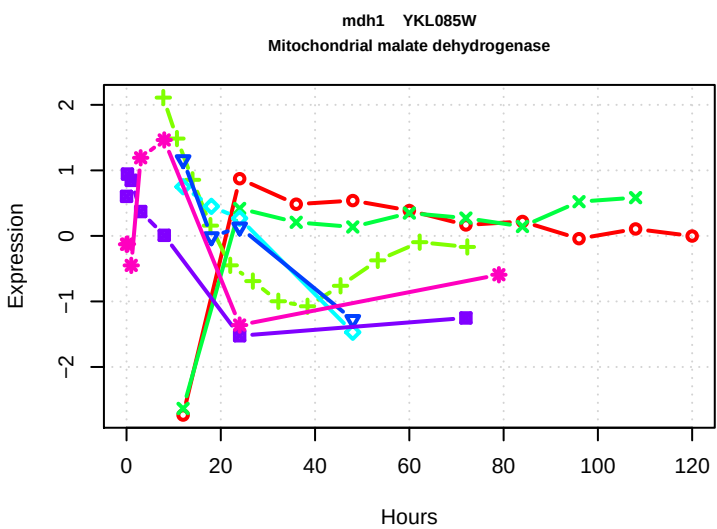


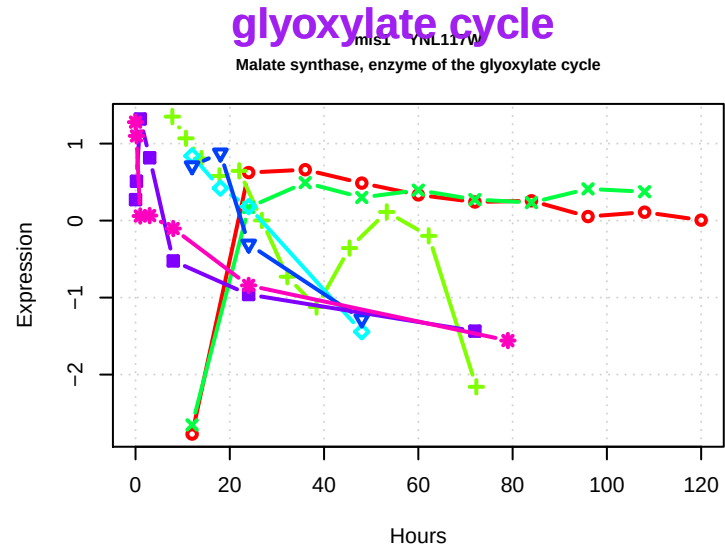
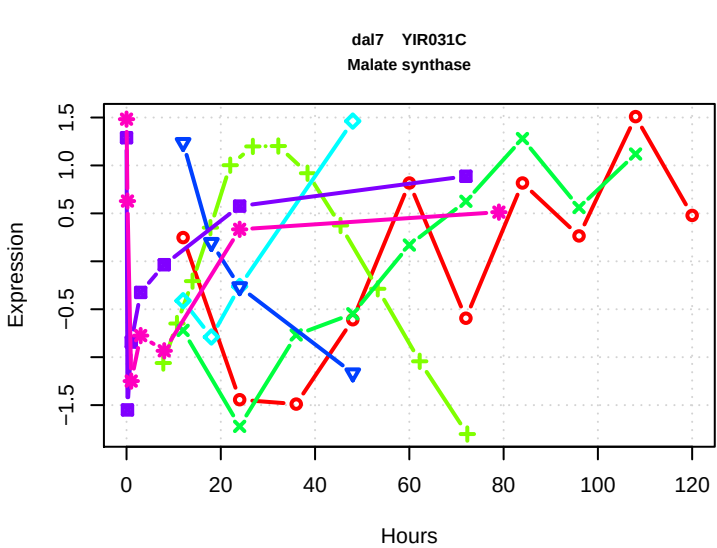
glycolysis



glyoxylate cycle

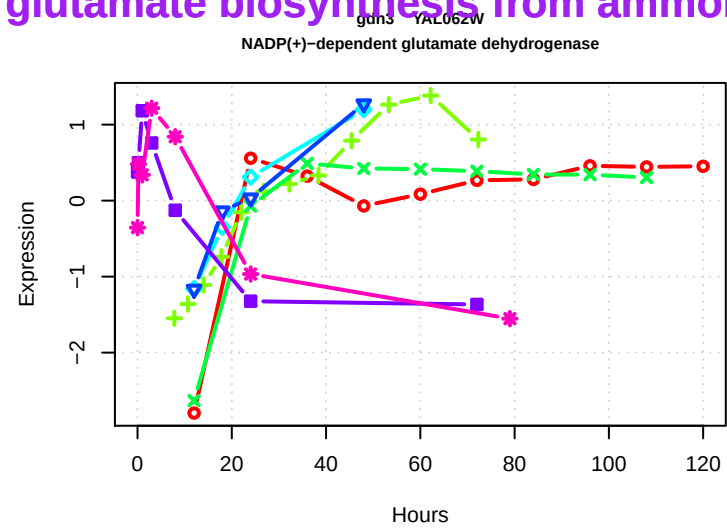
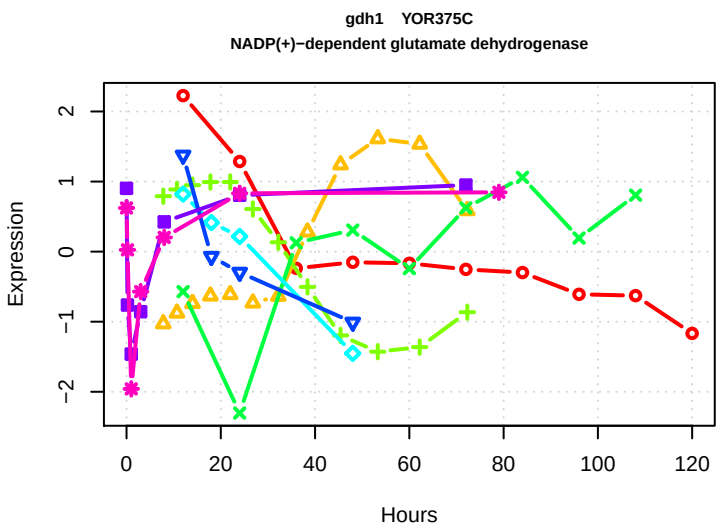
glyoxylate cycle





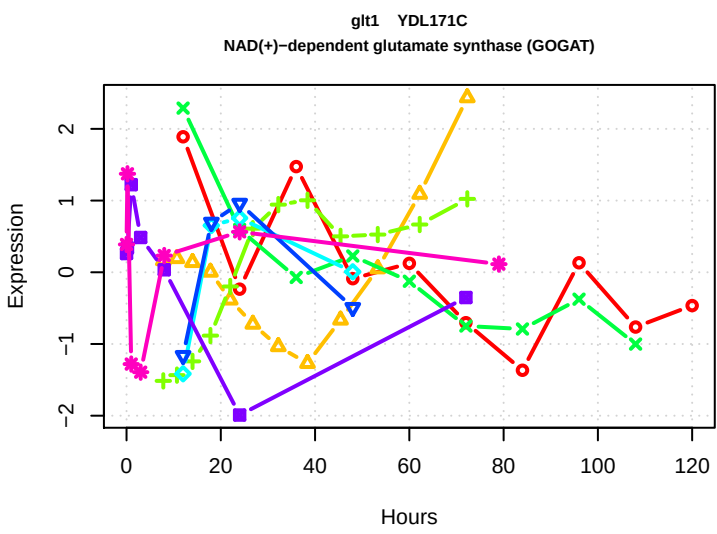
glutamate biosynthesis from ammonia

glutamate biosynthesis from ammonia



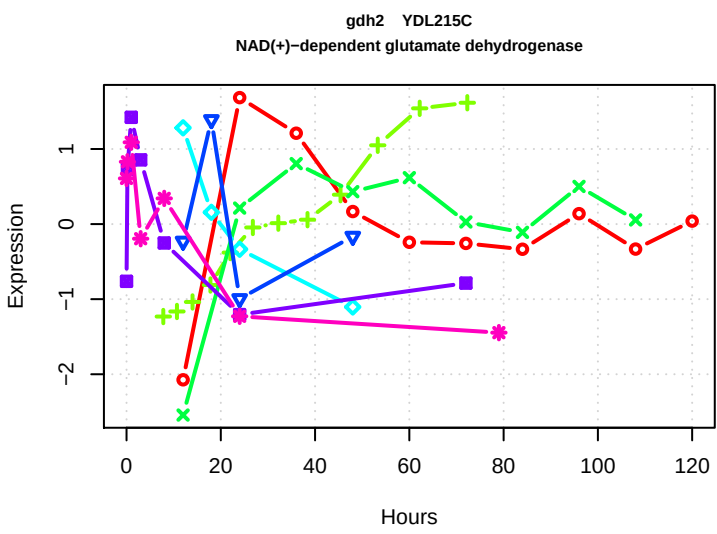
glutamate biosynthesis from glutamine

glutamate biosynthesis from glutamine



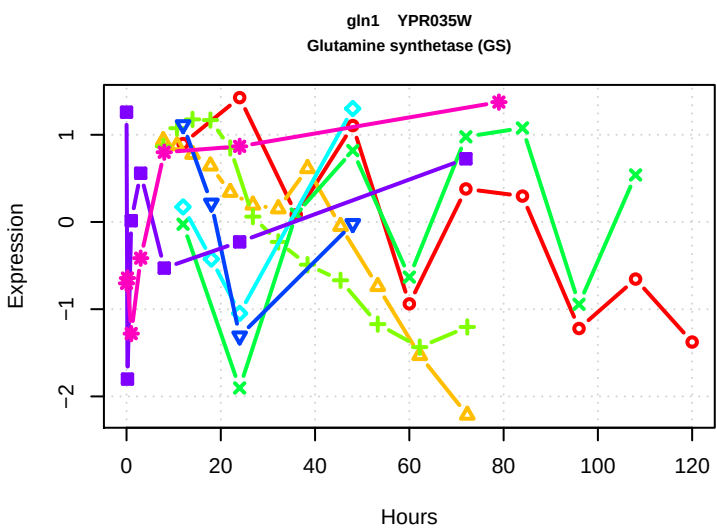
glutamate degradation IX

glutamate degradation IX



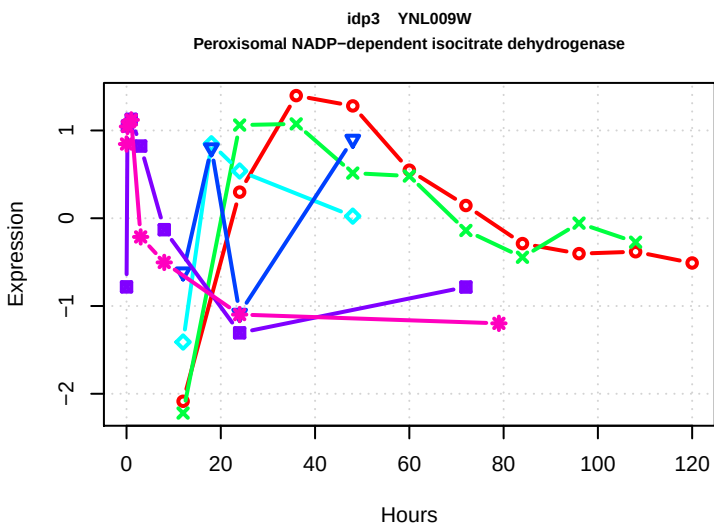
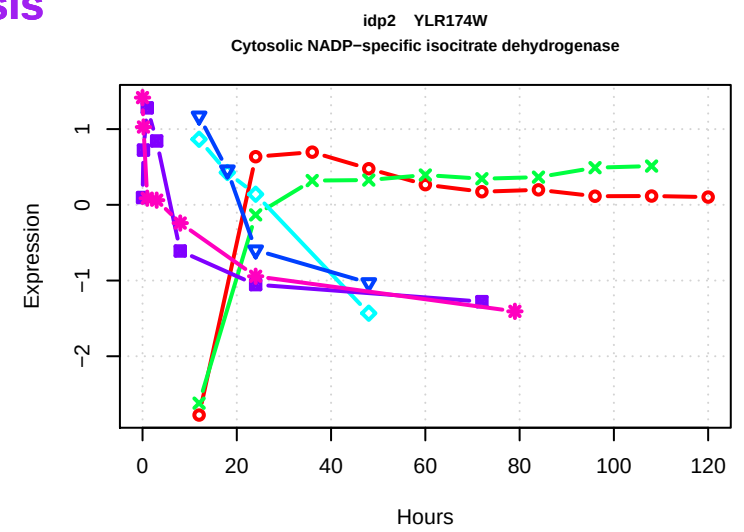
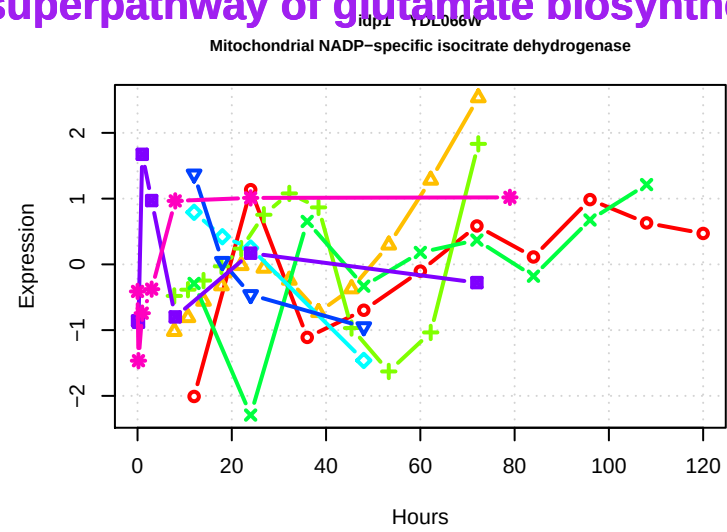
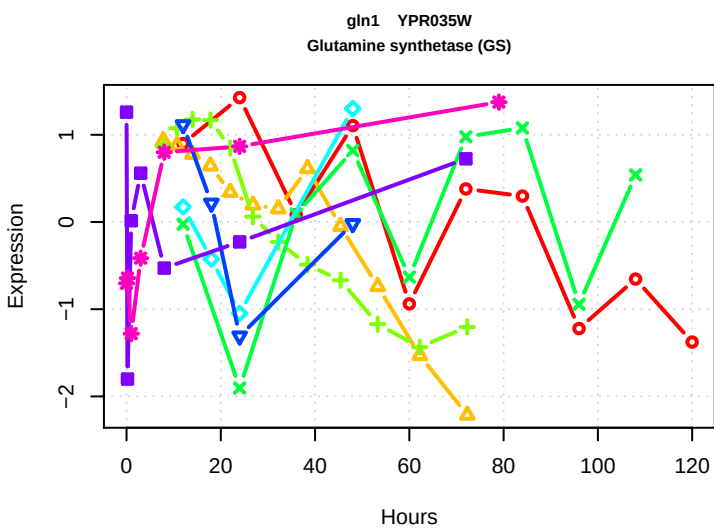
glutamine biosynthesis

glutamine biosynthesis



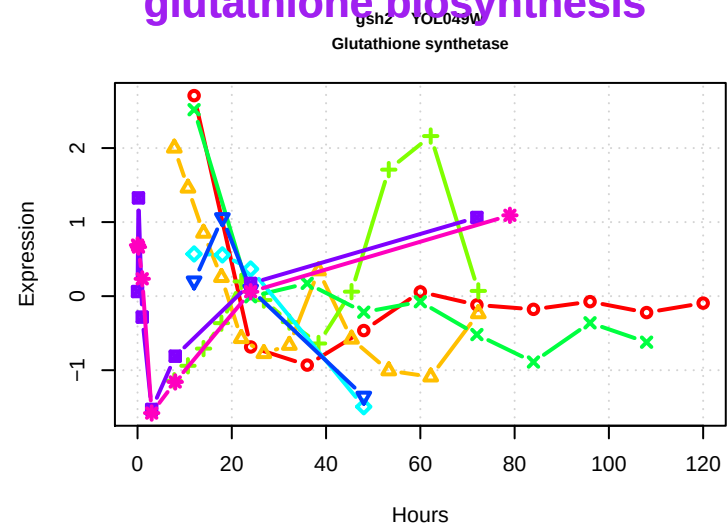
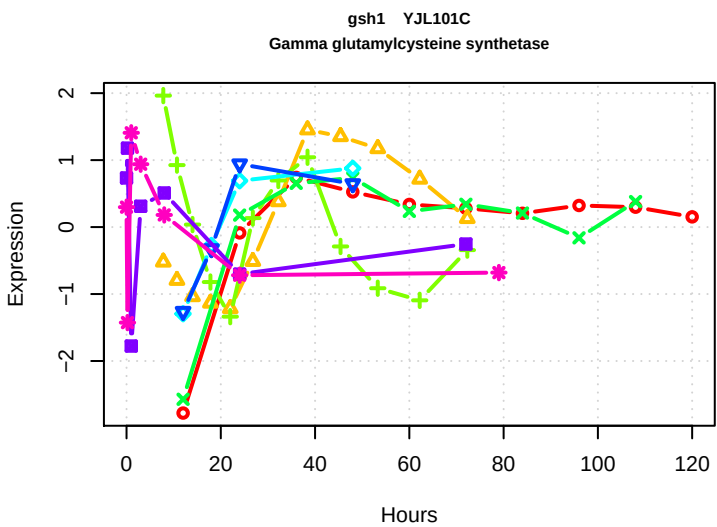
superpathway of glutamate biosynthesis

superpathway of glutamate biosynthesis

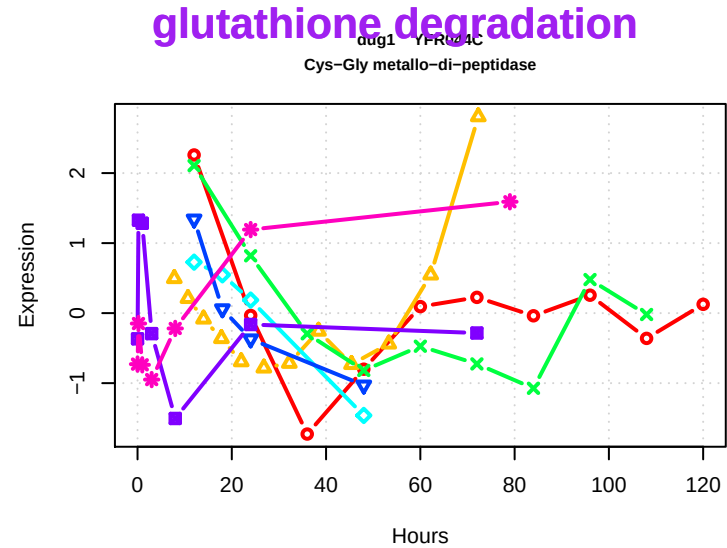
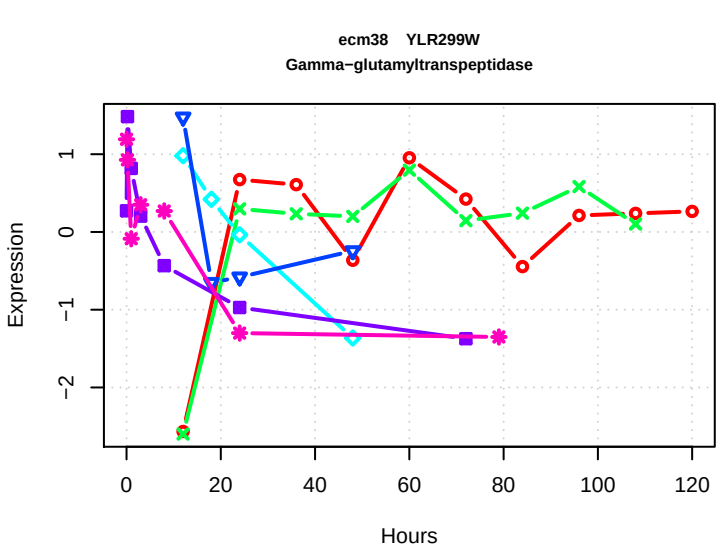


glutathione biosynthesis

glutathione biosynthesis



glutathione degradation



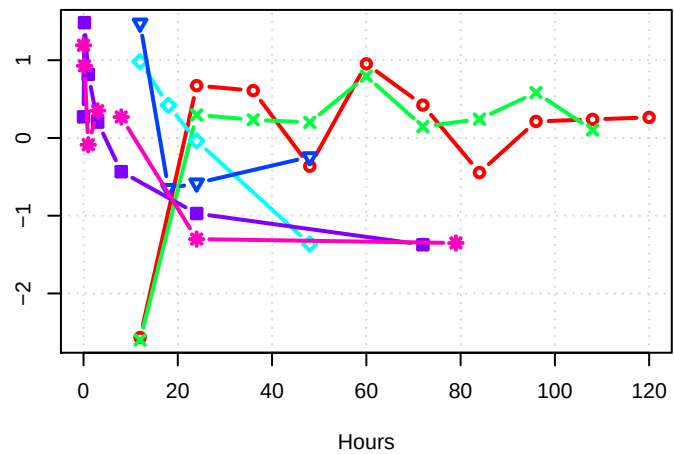
uperpathway of glutathione metabolism (truncated & gamma;-glutamyl cycle

superpathway of glutathione metabolism (truncated & gamma;-glutamyl cycle)

Expression

ecm38 YLR299W

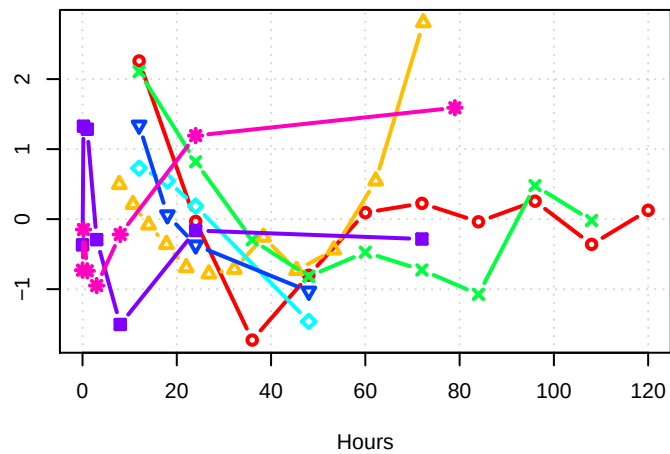
Gamma-glutamyltranspeptidase



Expression

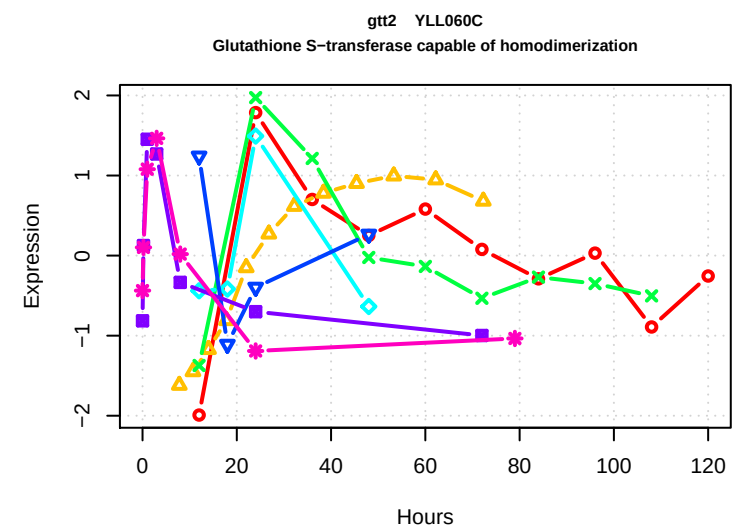
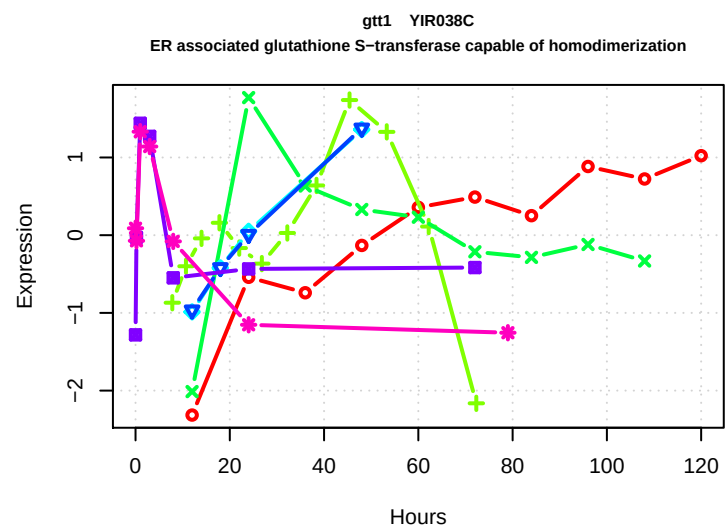
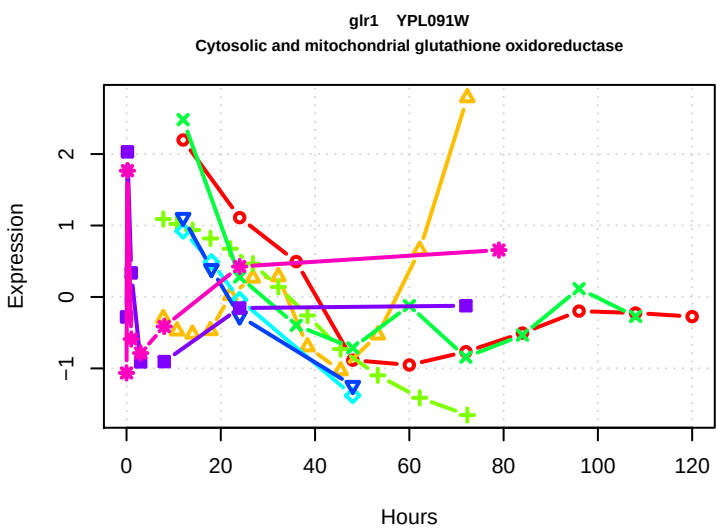
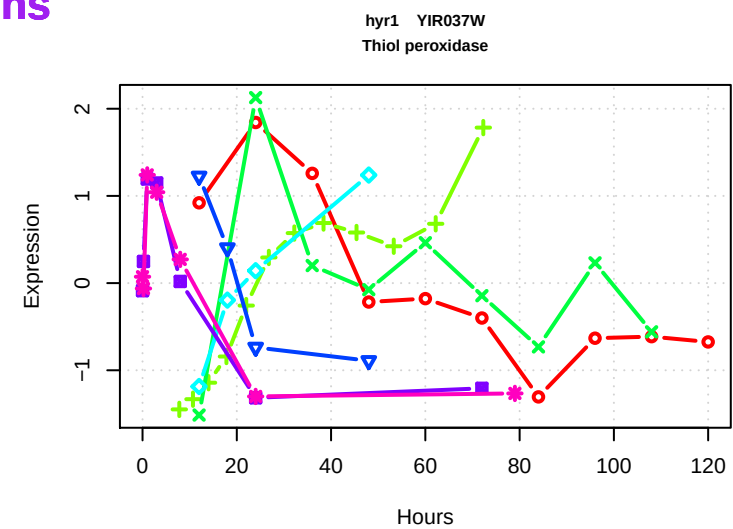
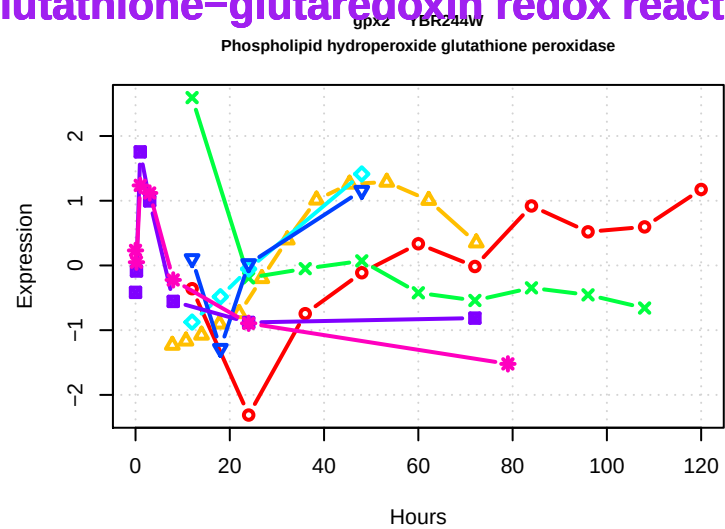
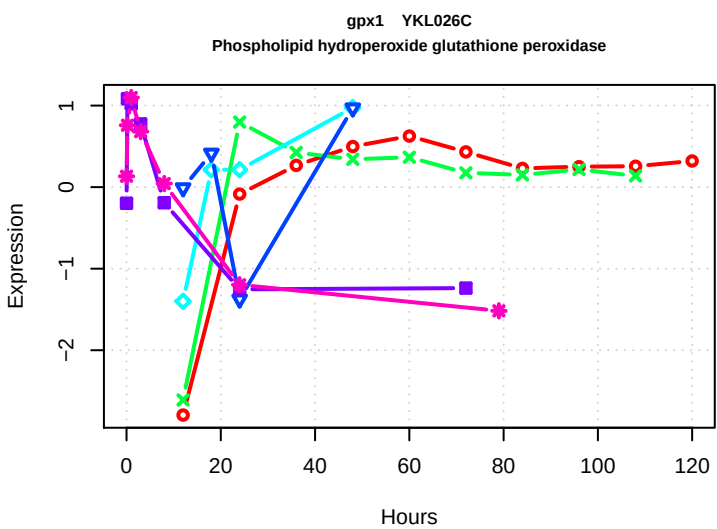
dug1 YFR144C

Cys-Gly metallo-di-peptidase



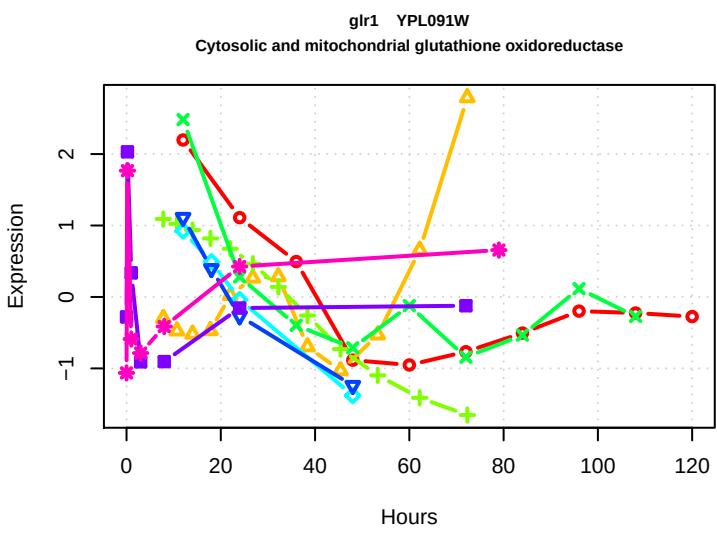
glutathione–glutaredoxin redox reactions

glutathione-glutaredoxin redox reactions



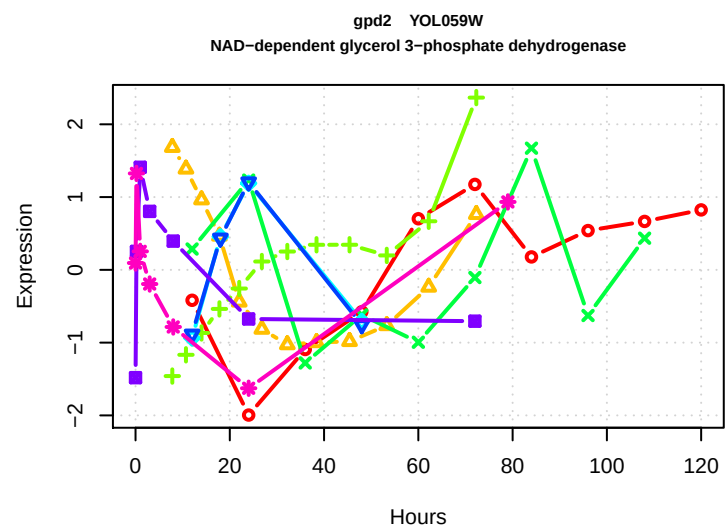
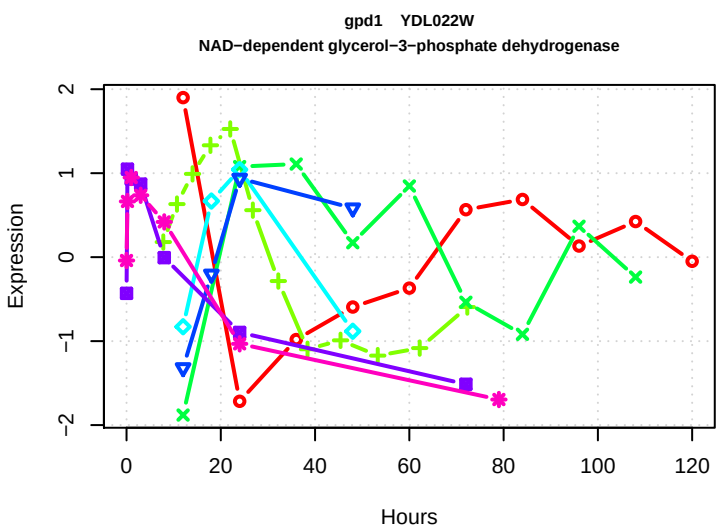
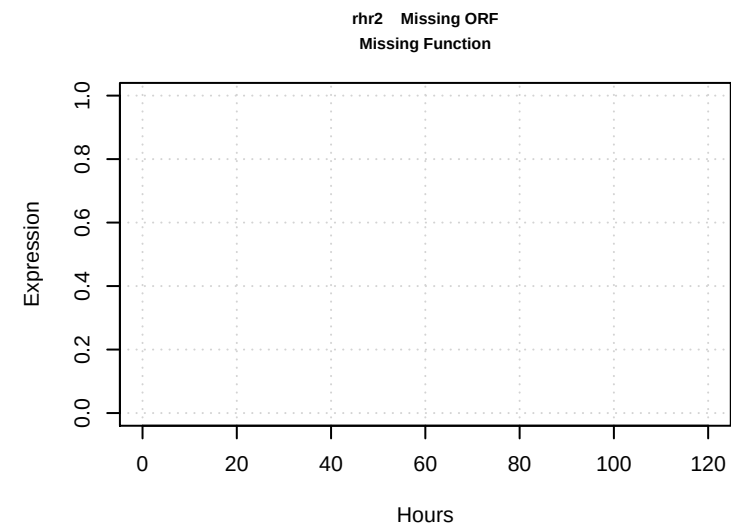
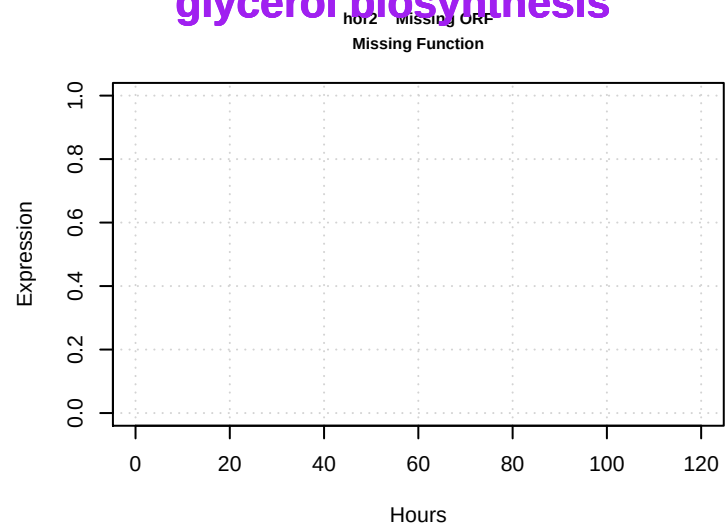
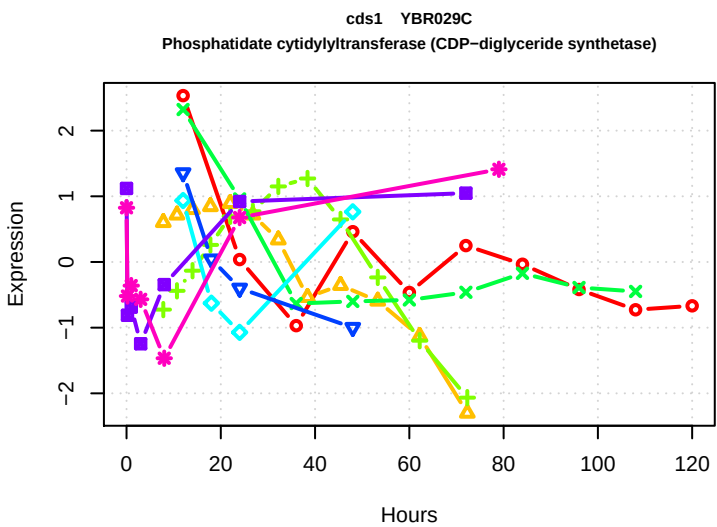
glutathione–glutaredoxin system

glutathione-glutaredoxin system



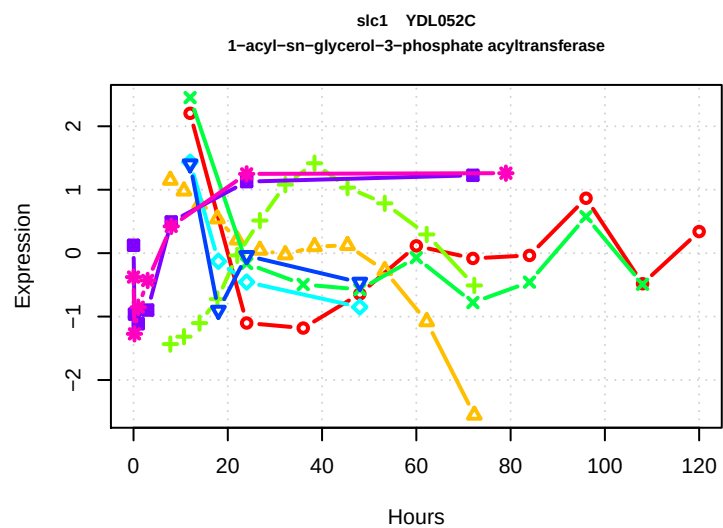
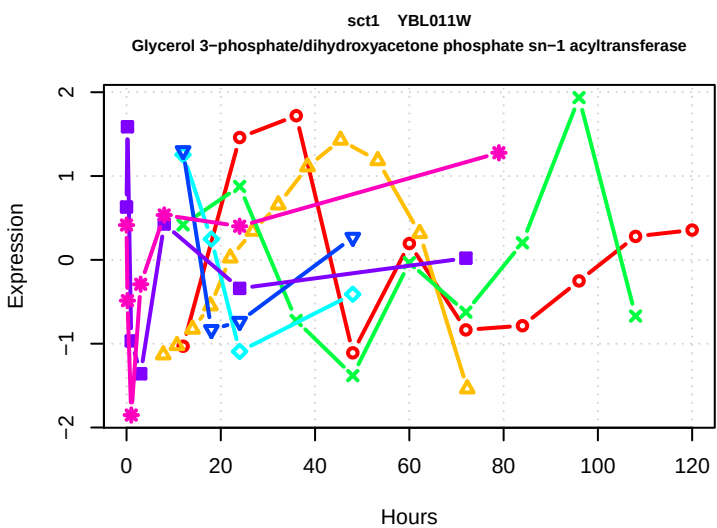
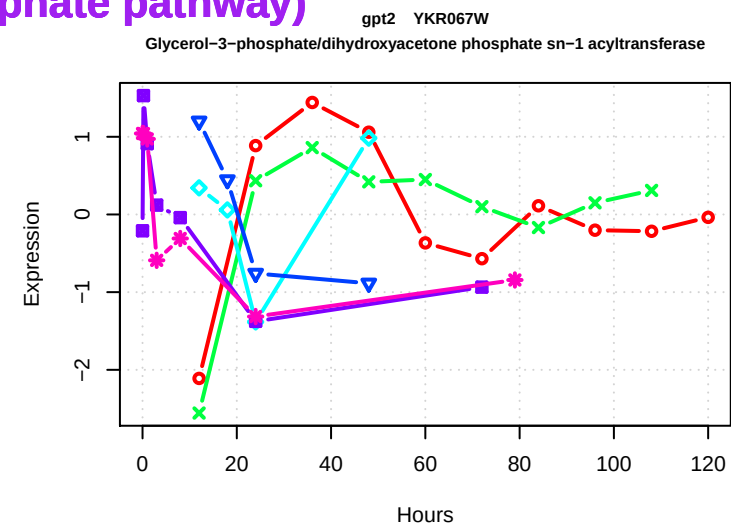
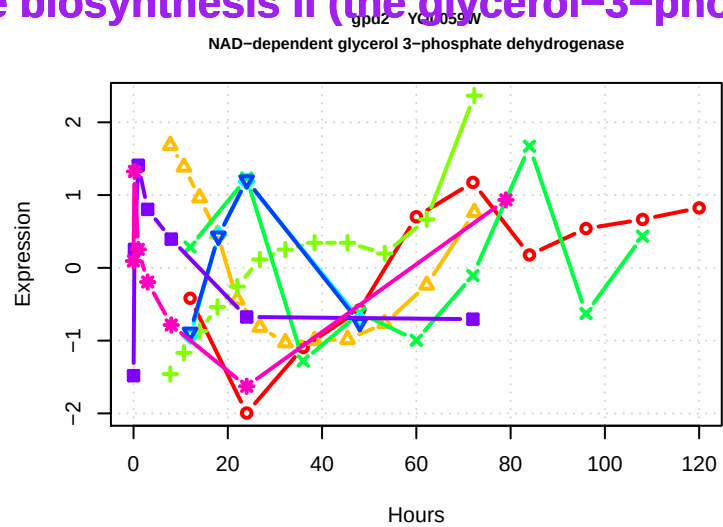
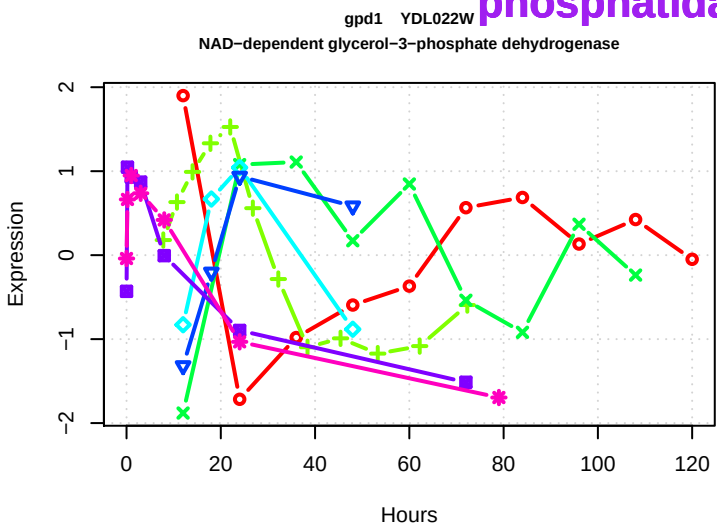
glycerol biosynthesis

glycerol biosynthesis

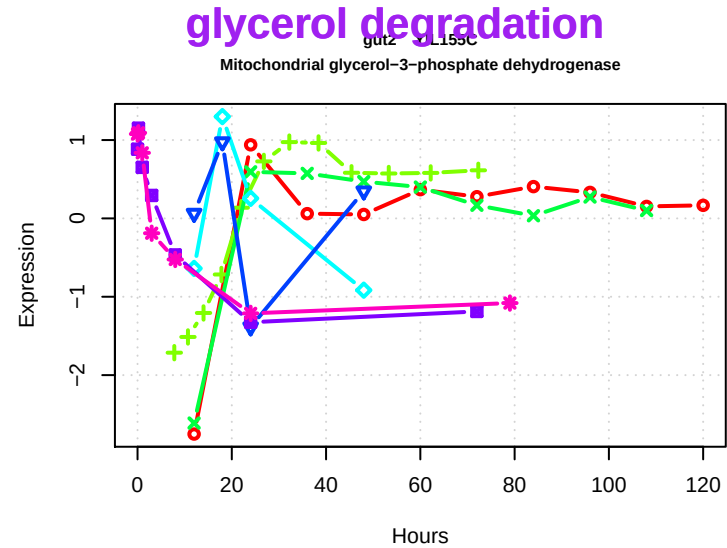
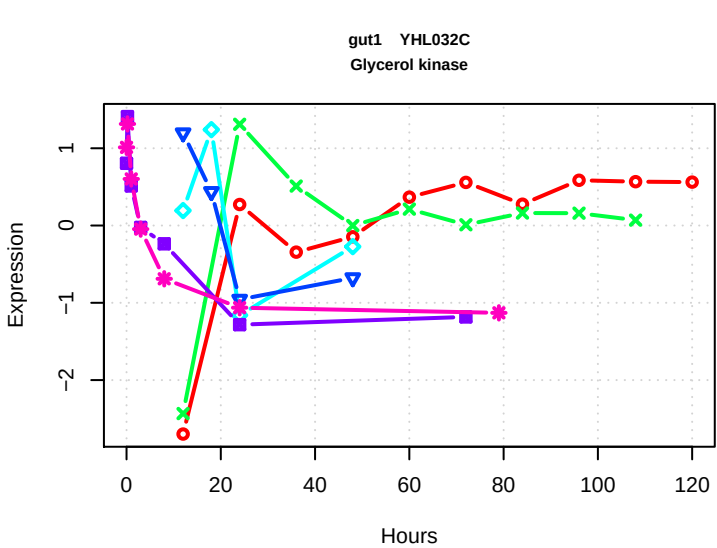


phosphatidate biosynthesis II (the glycerol-3-phosphate pathway)

phosphatidate biosynthesis II (the glycerol-3-phosphate pathway)

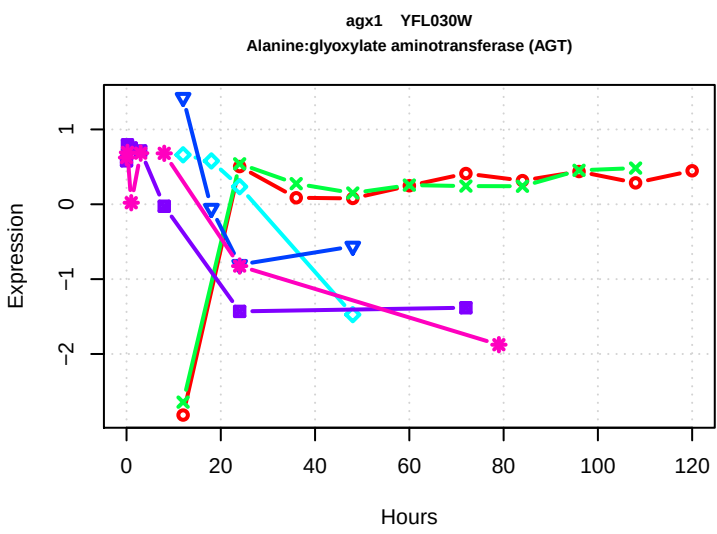


glycerol degradation



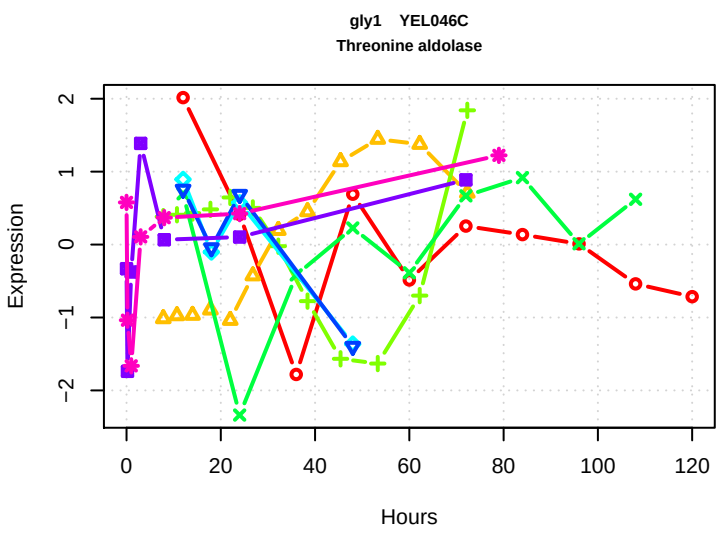
glycine biosynthesis from glyoxylate

glycine biosynthesis from glyoxylate



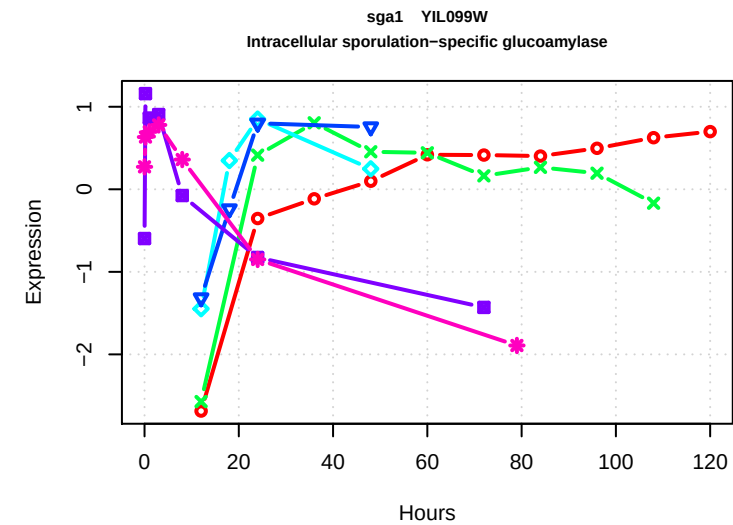
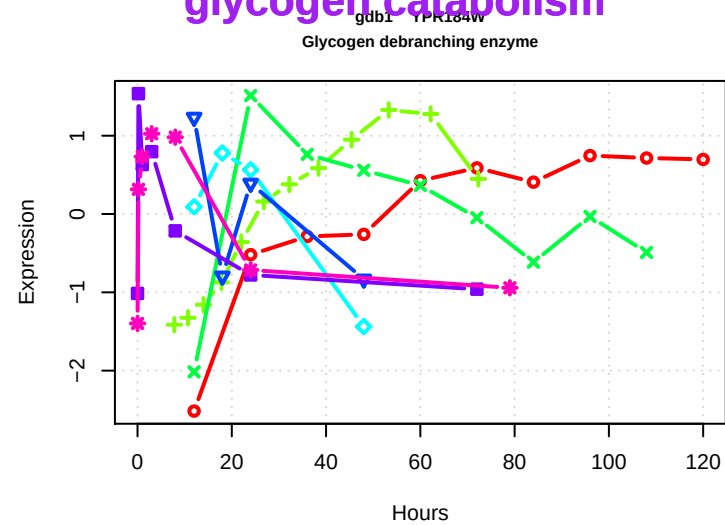
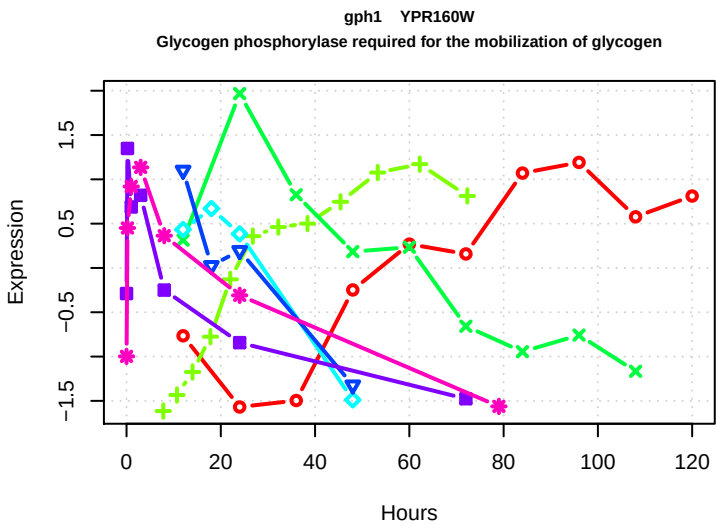
glycine biosynthesis from threonine

glycine biosynthesis from threonine



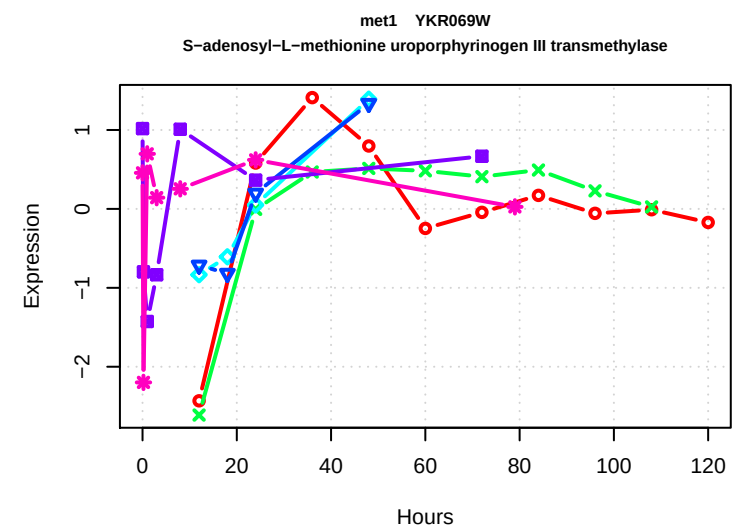
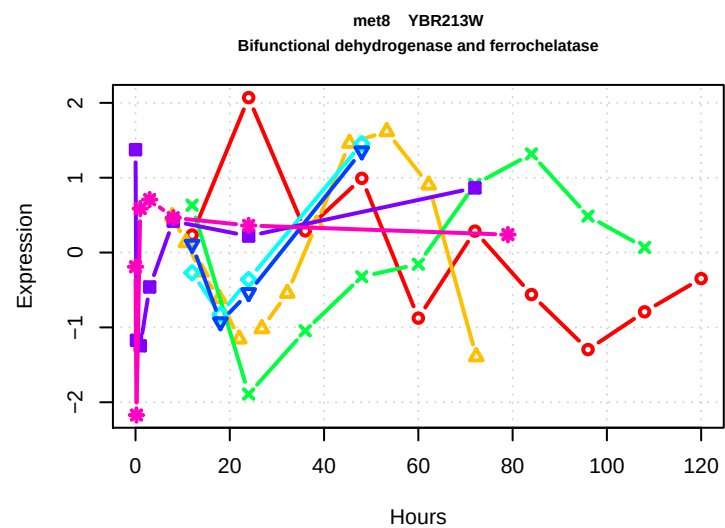
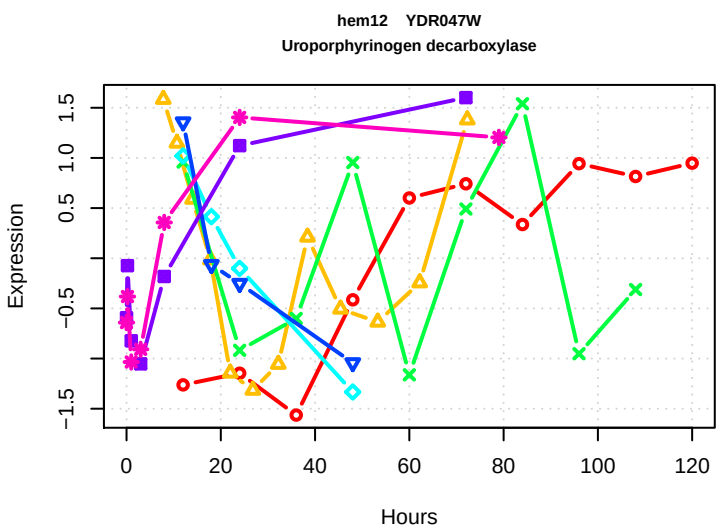
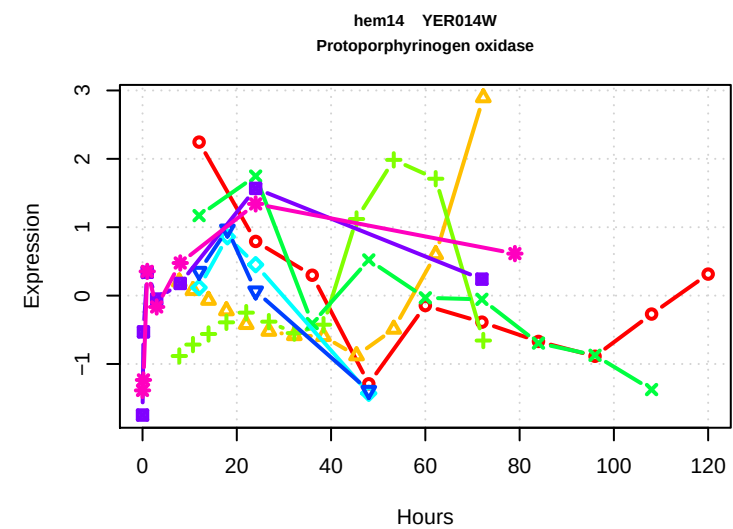
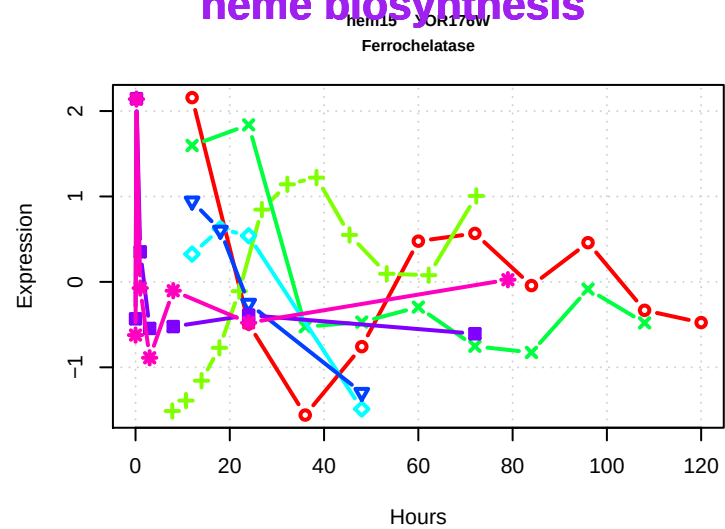
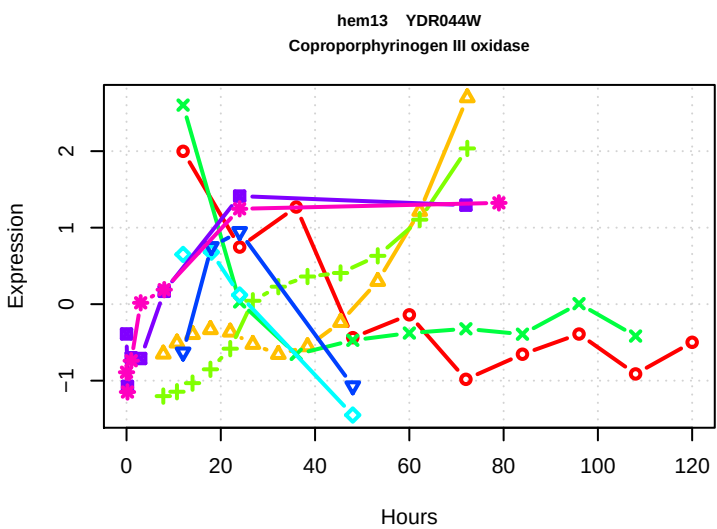
glycogen catabolism

glycogen catabolism



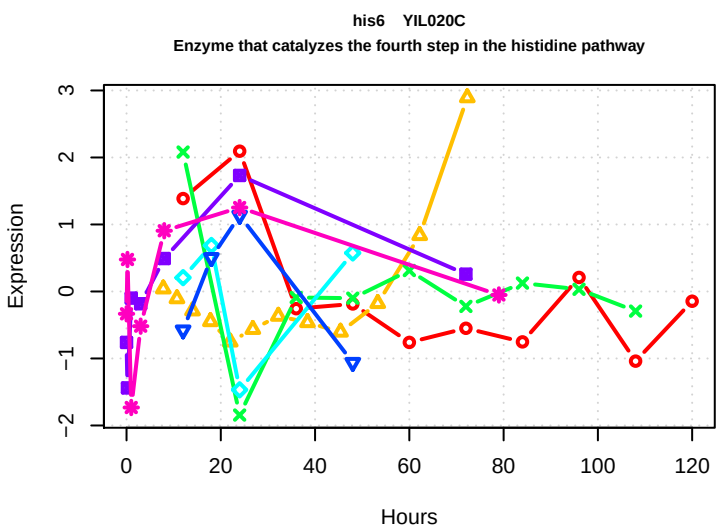
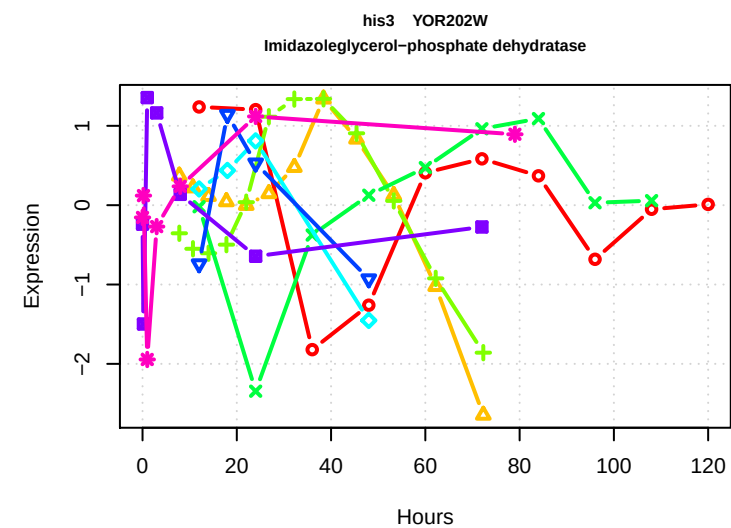
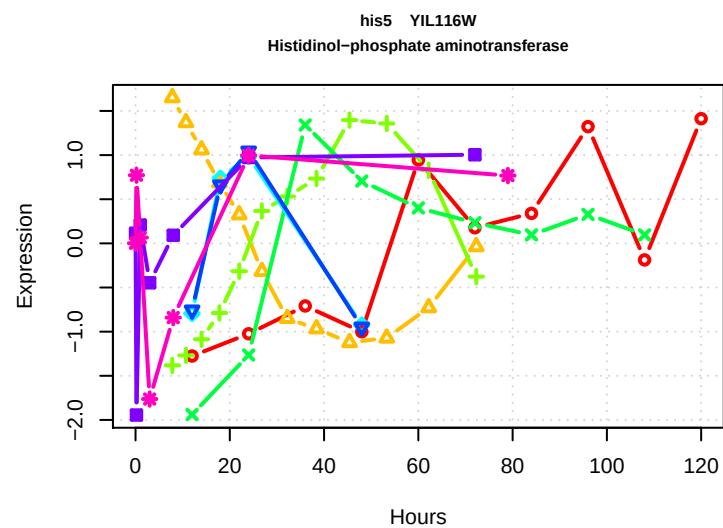
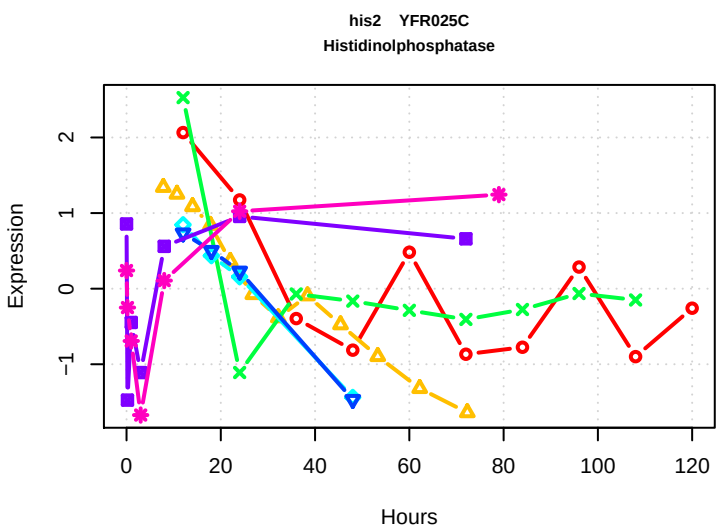
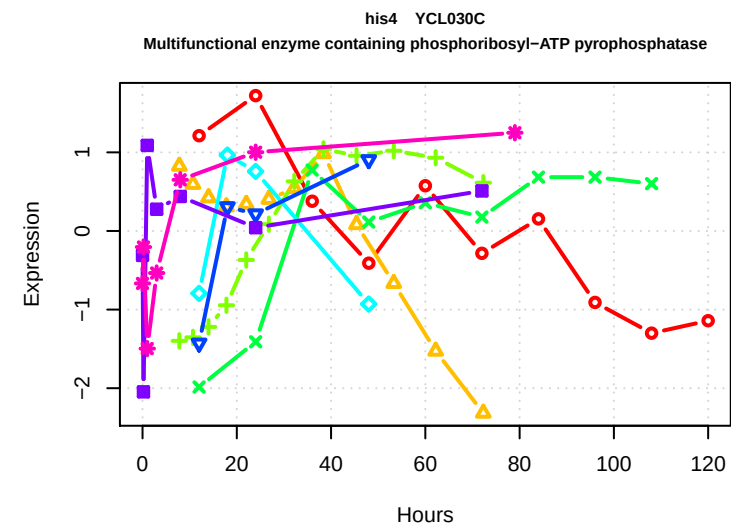
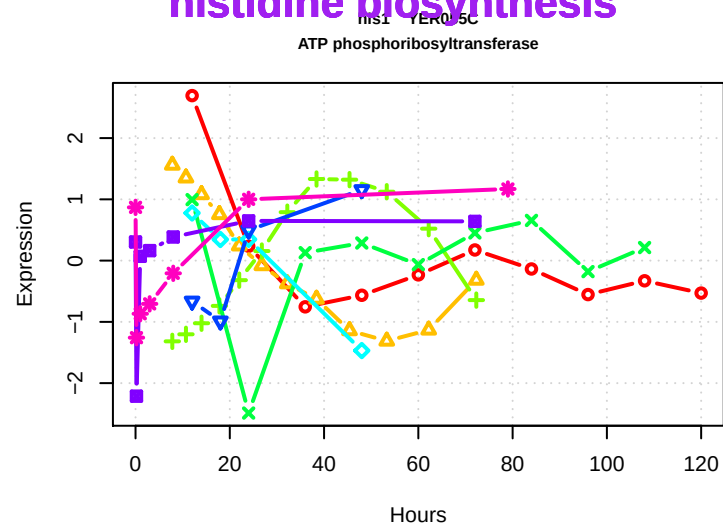
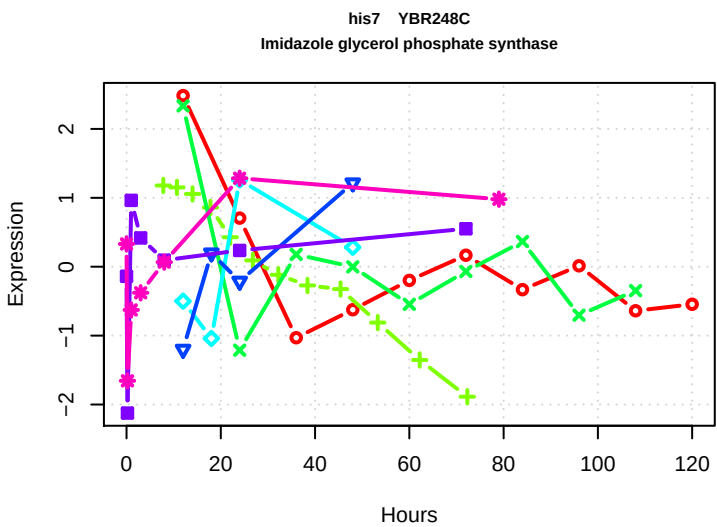
heme biosynthesis

heme biosynthesis



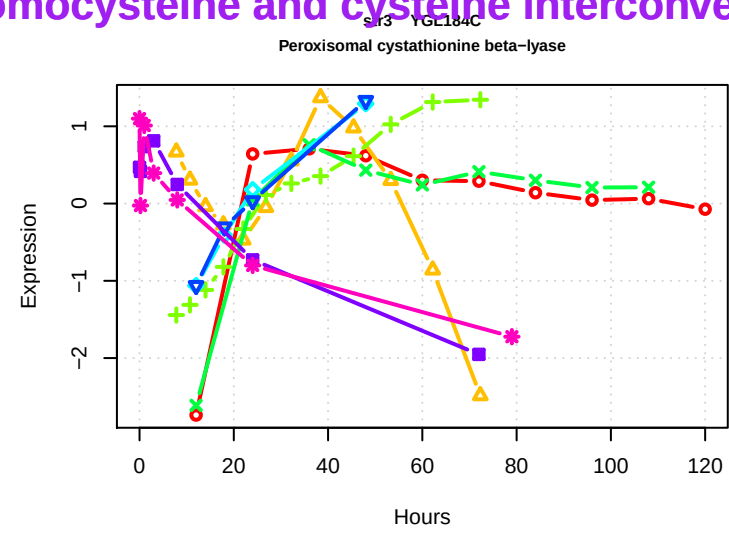
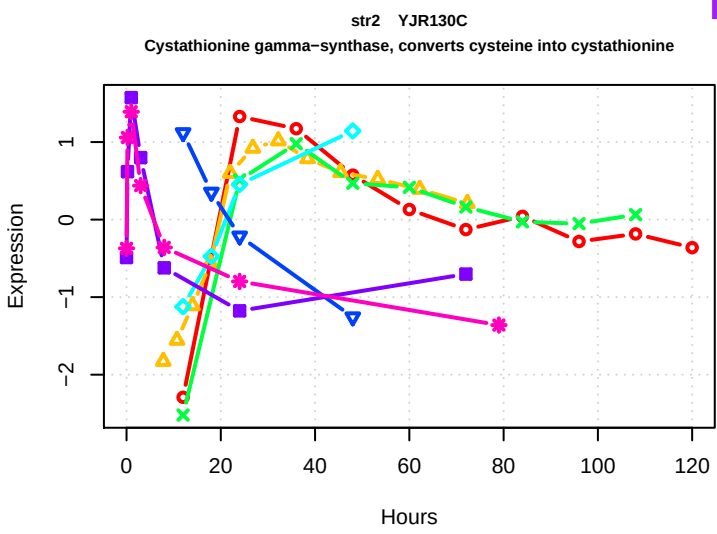
histidine biosynthesis

histidine biosynthesis



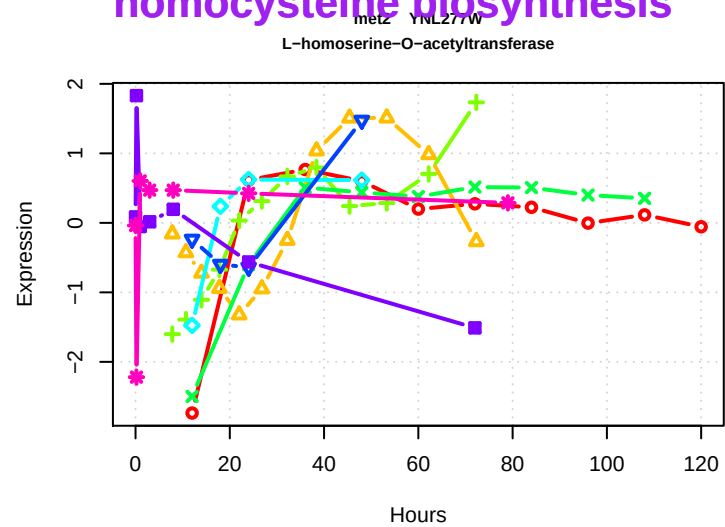
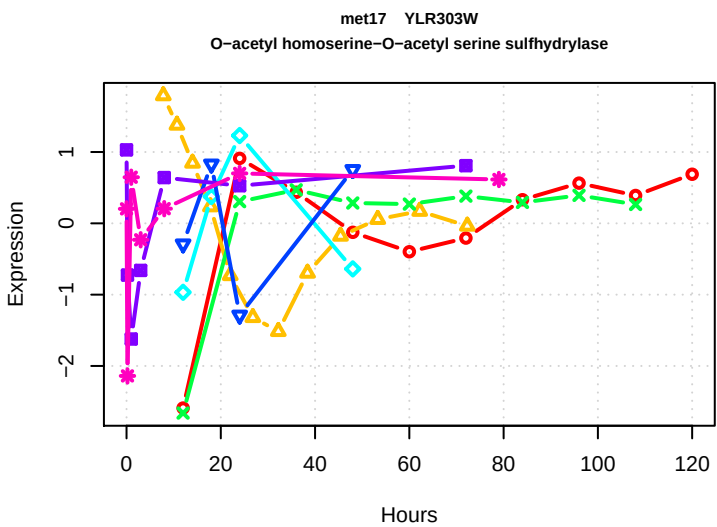
homocysteine and cysteine interconversion

homocysteine and cysteine interconversion



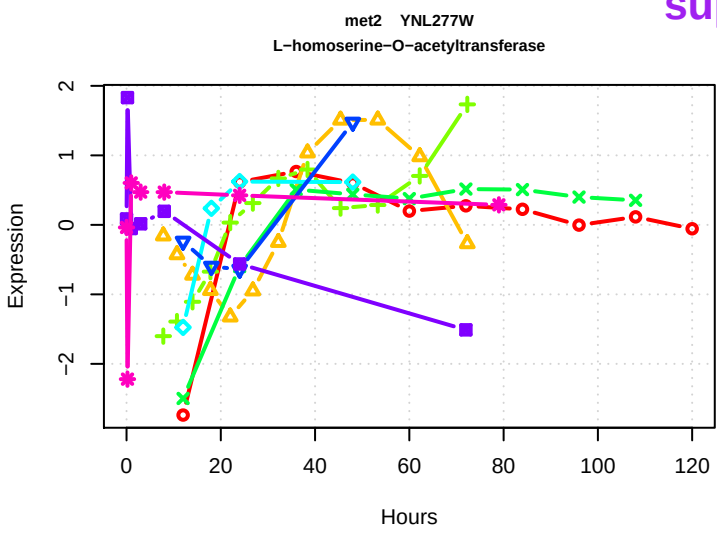
homocysteine biosynthesis

homocysteine biosynthesis



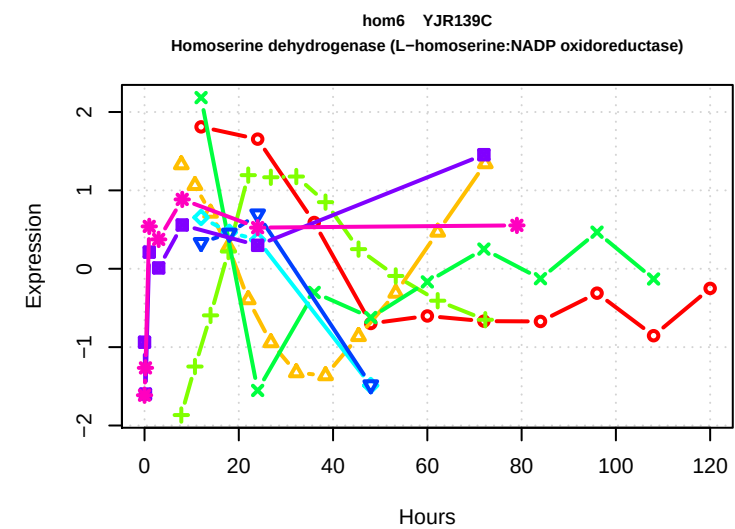
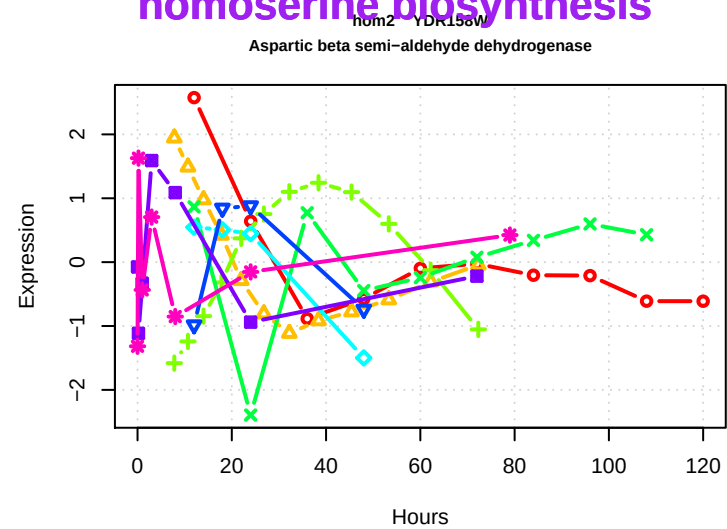
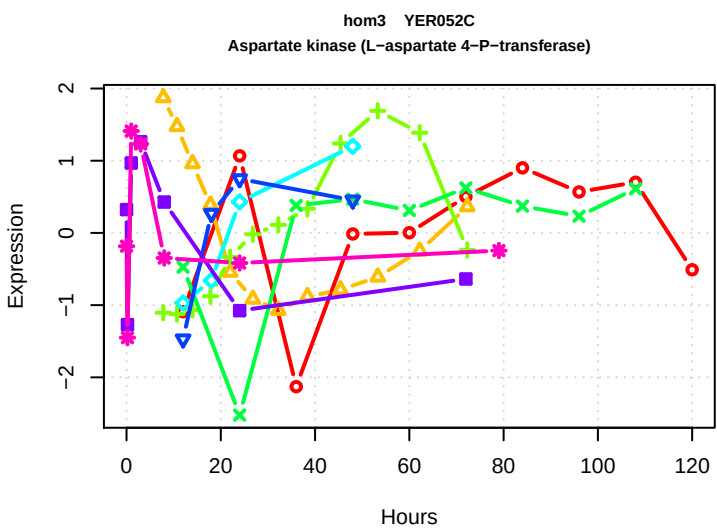
superpathway of sulfur amino acid biosynthesis

superpathway of sulfur amino acid biosynthesis



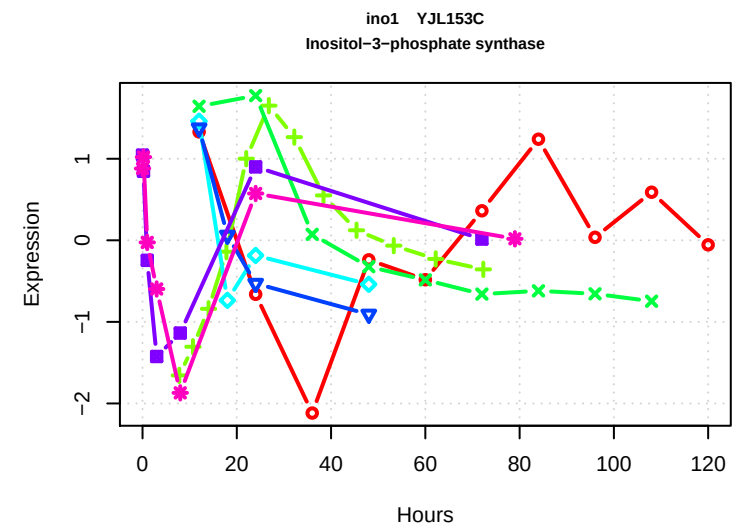
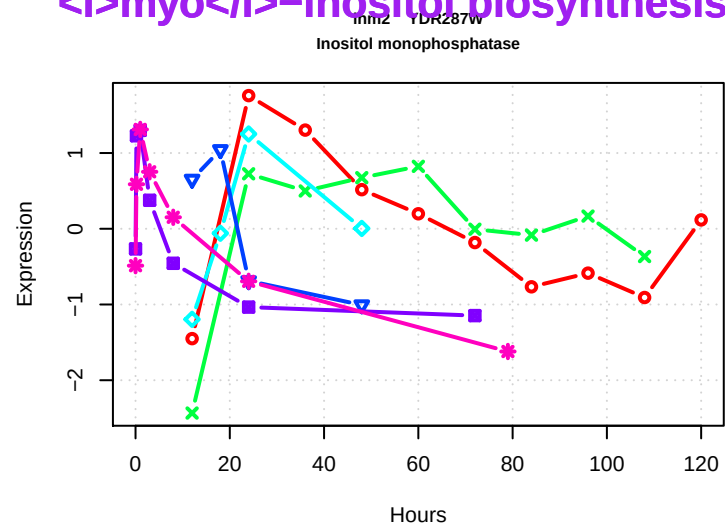
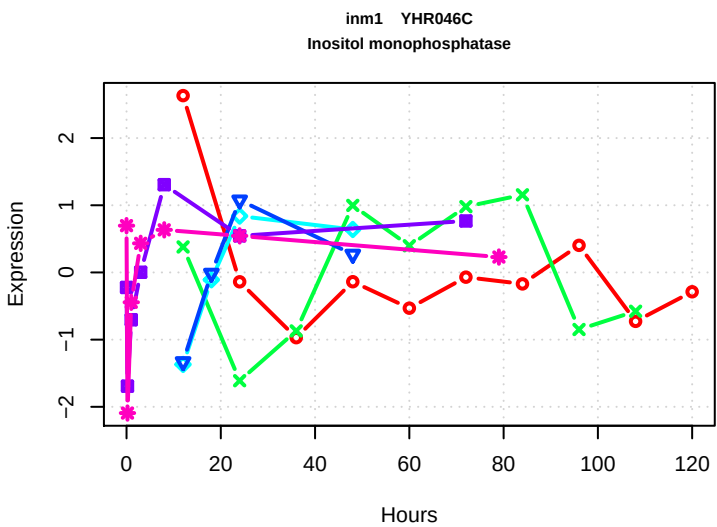
homoserine biosynthesis

homoserine biosynthesis



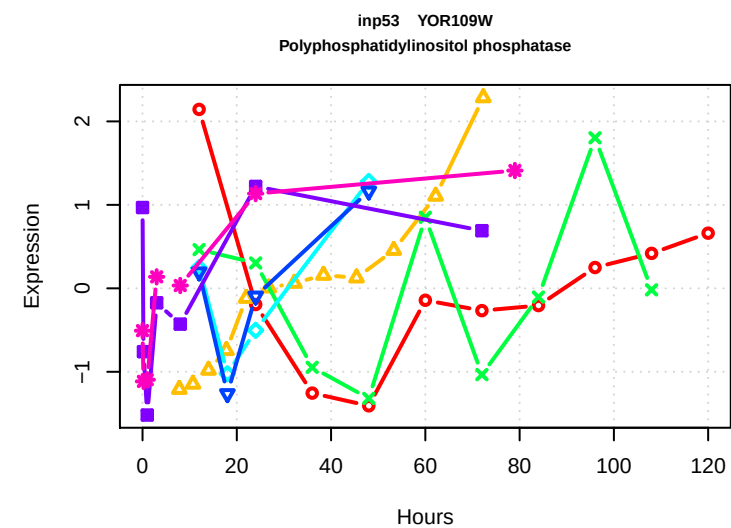
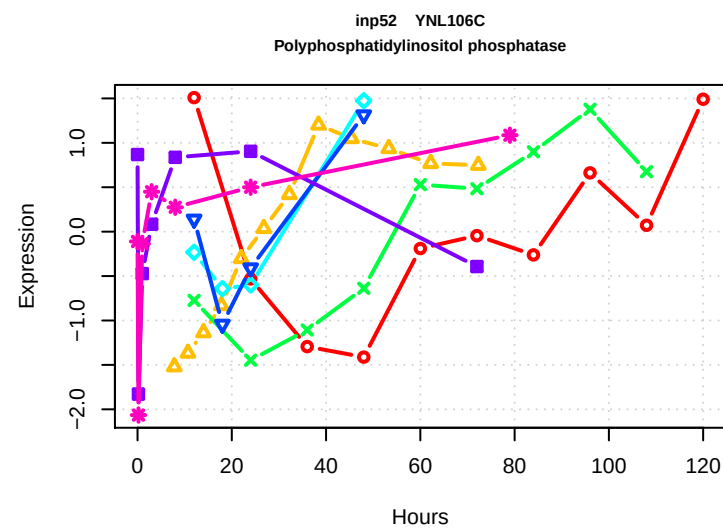
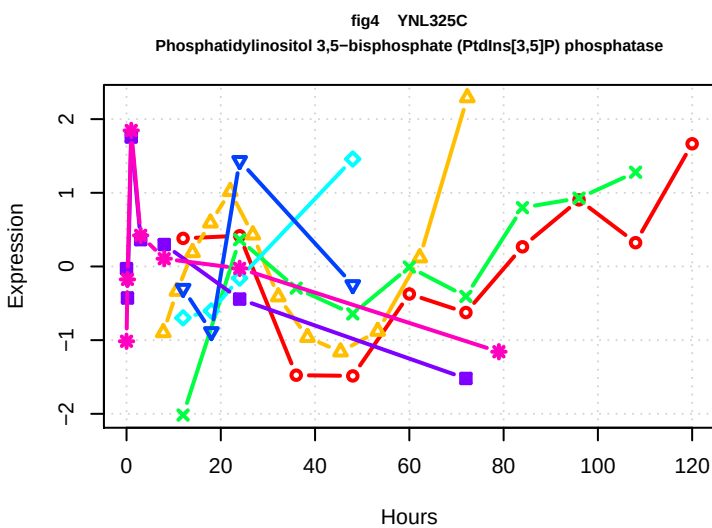
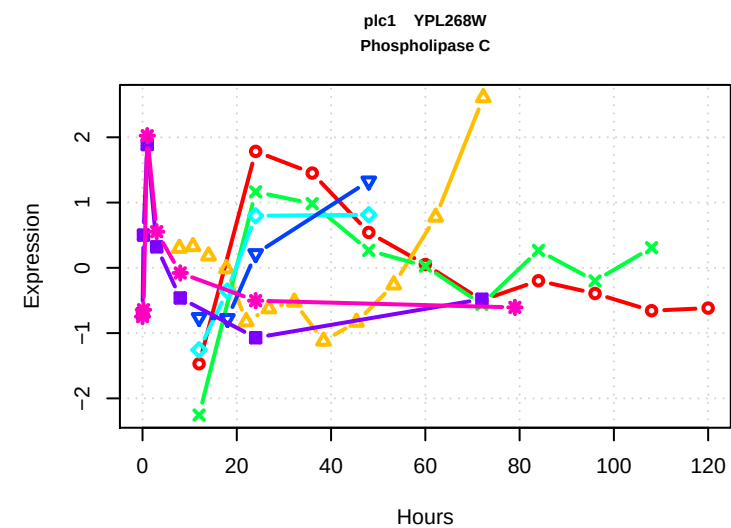
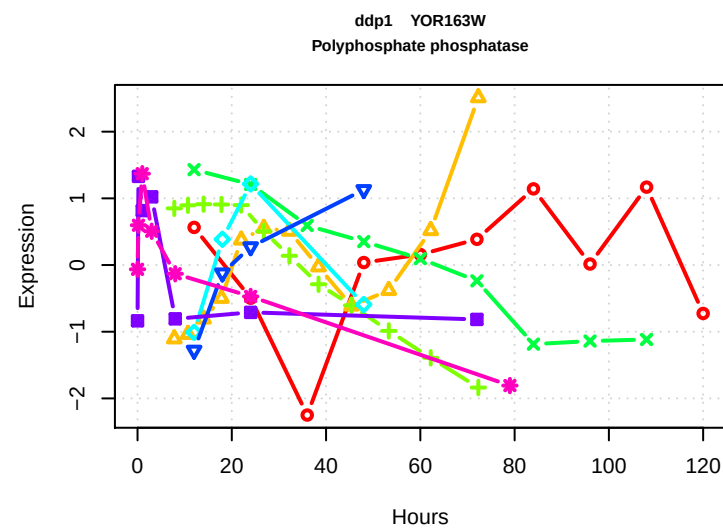
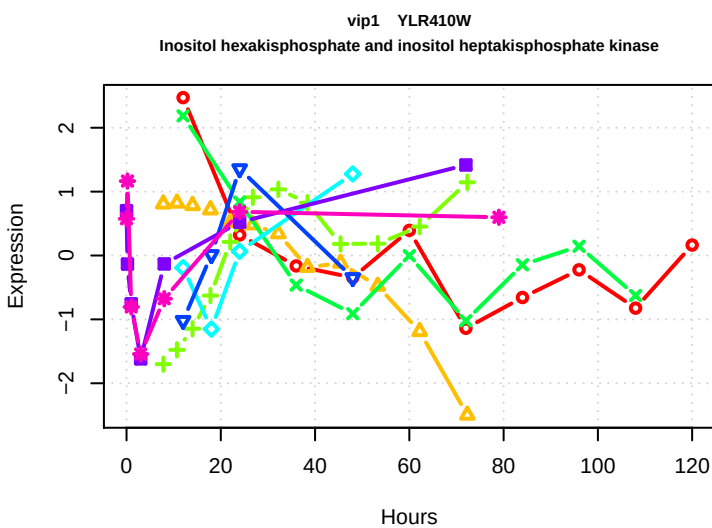
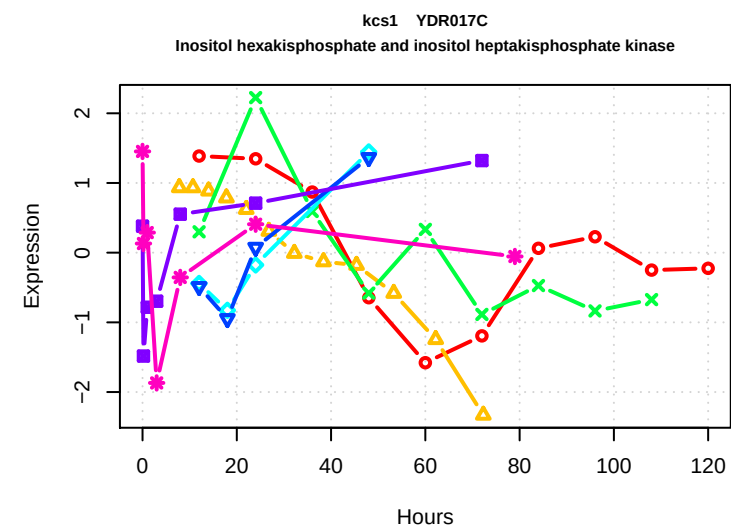
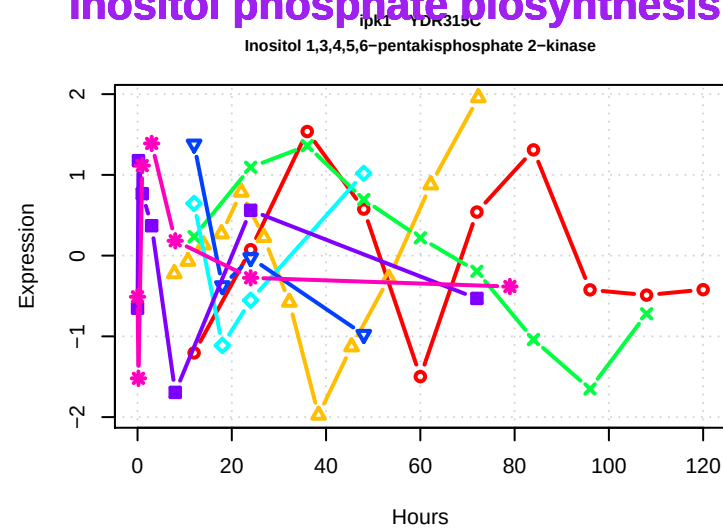
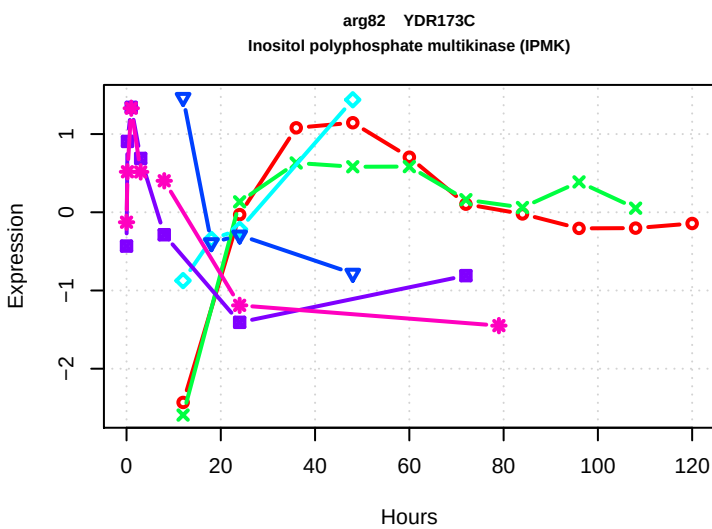
<i>myo</i>-inositol biosynthesis

myo-inositol biosynthesis

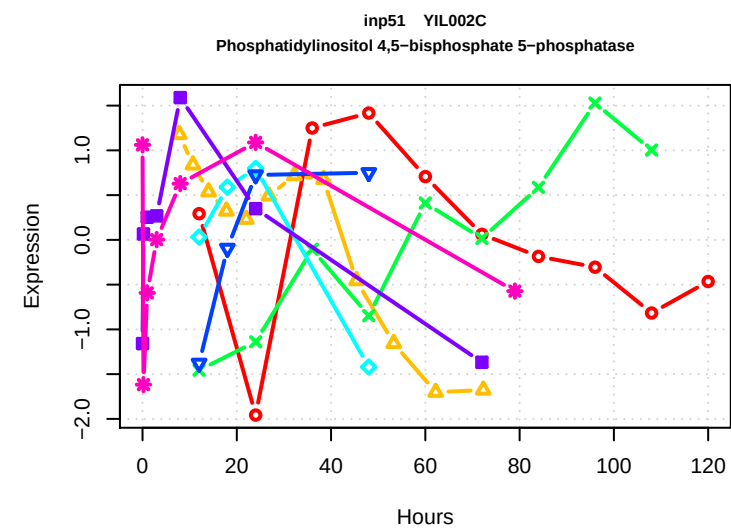
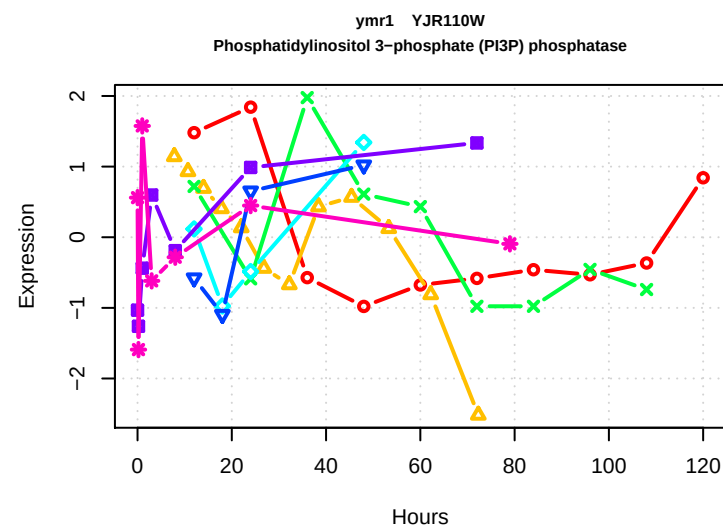
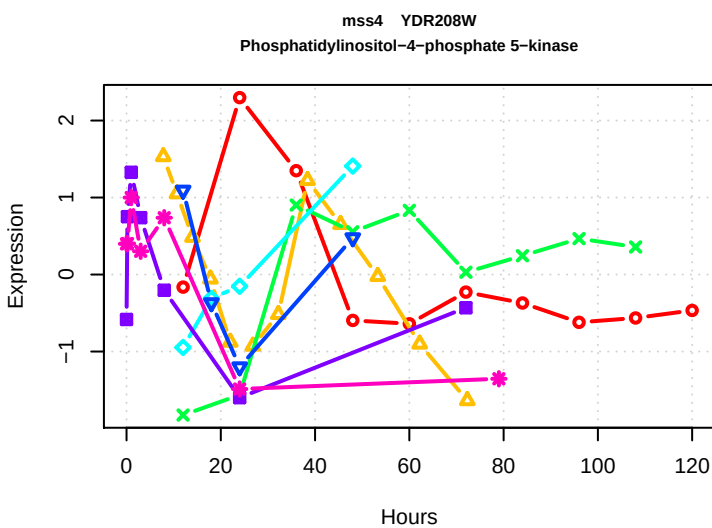
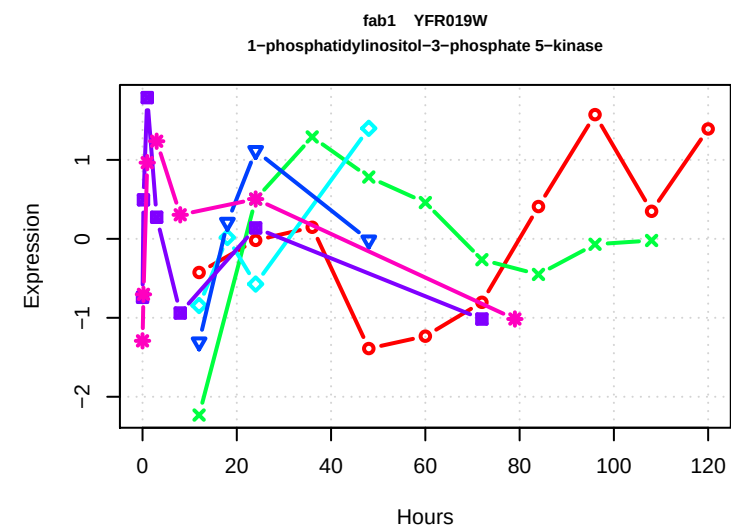
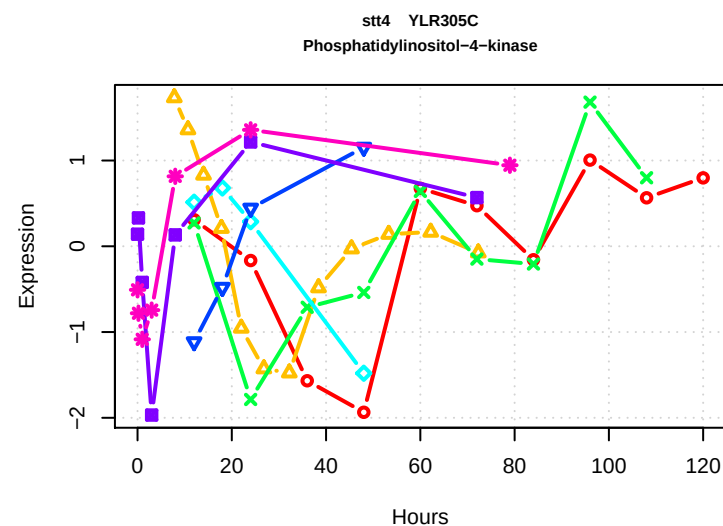
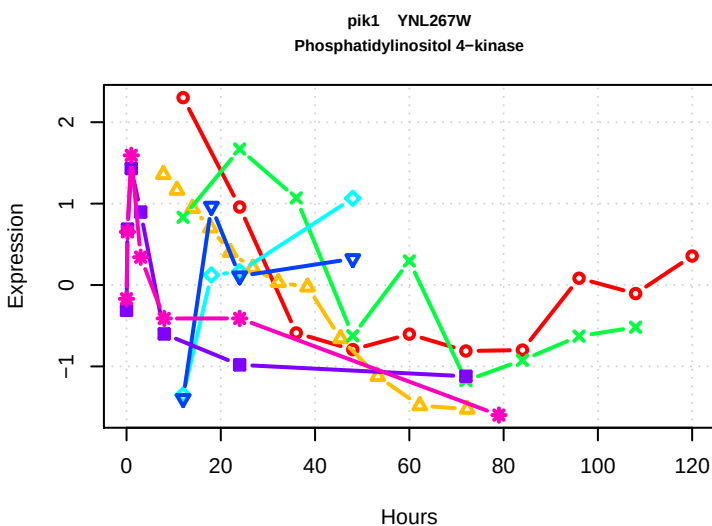
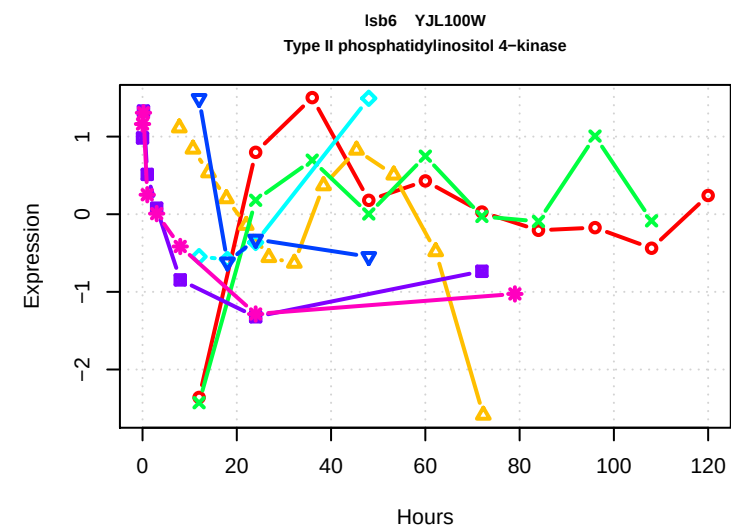
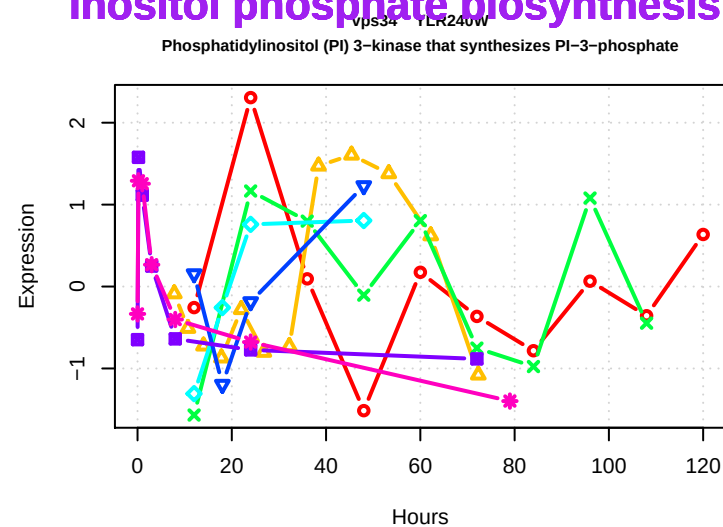
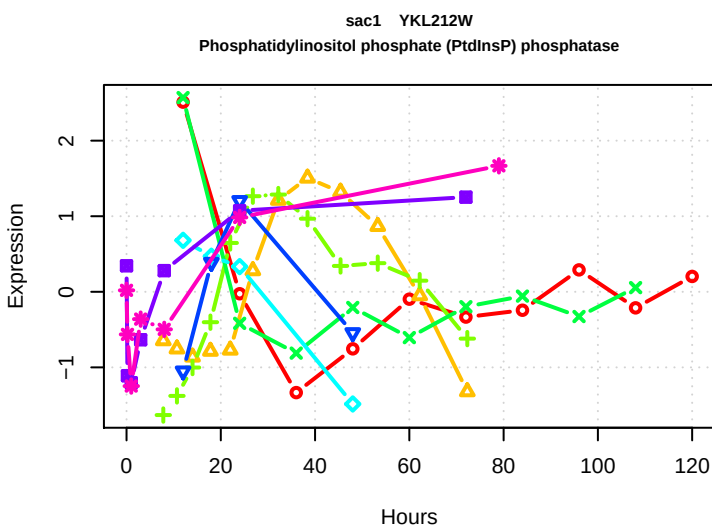


inositol phosphate biosynthesis

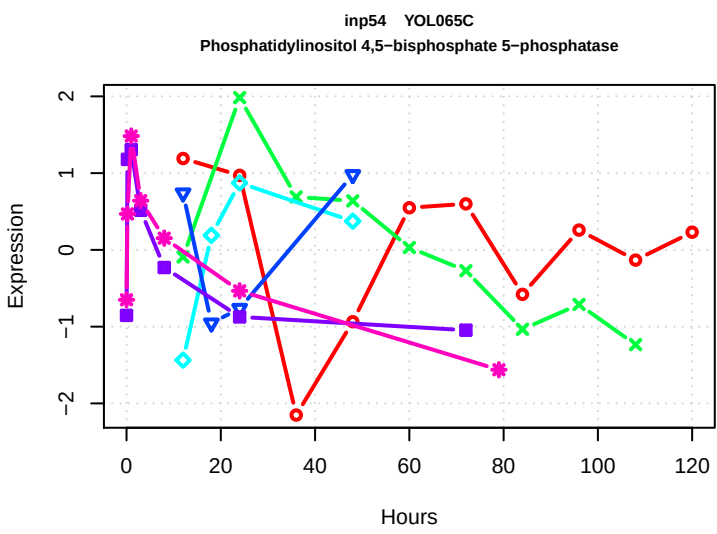
inositol phosphate biosynthesis



inositol phosphate biosynthesis

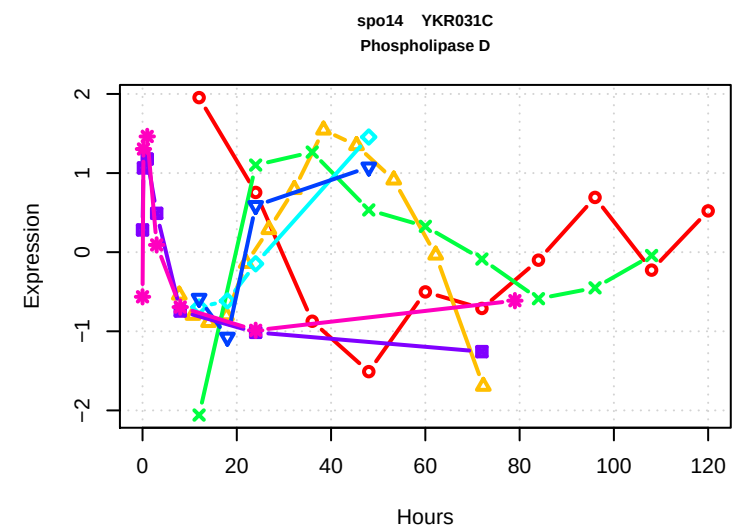
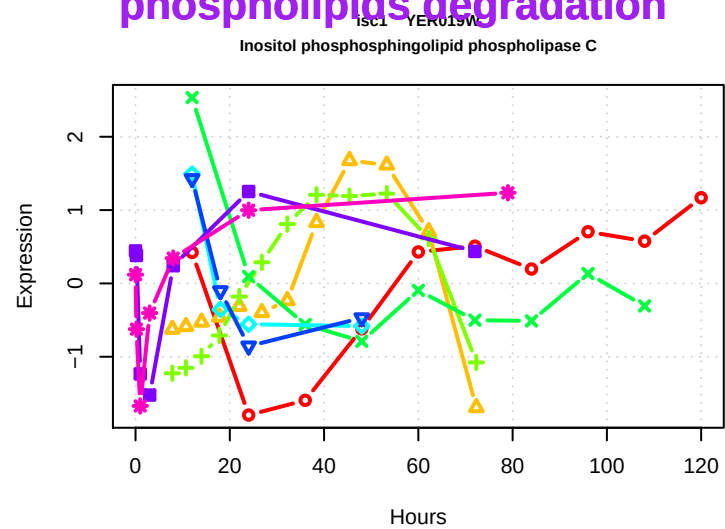
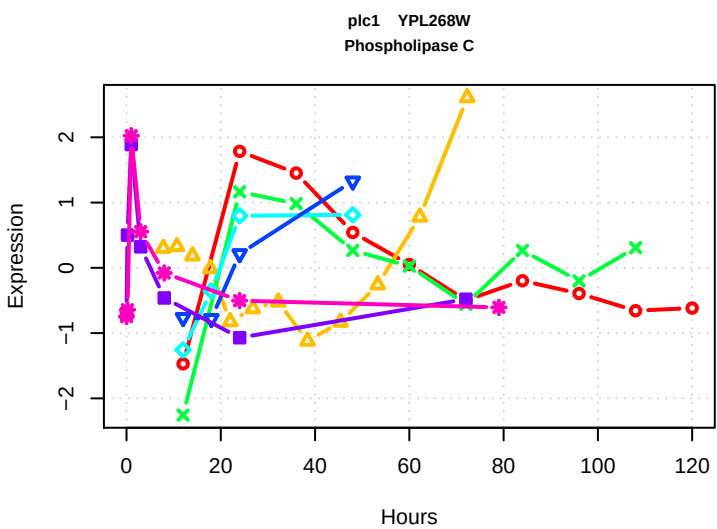


inositol phosphate biosynthesis



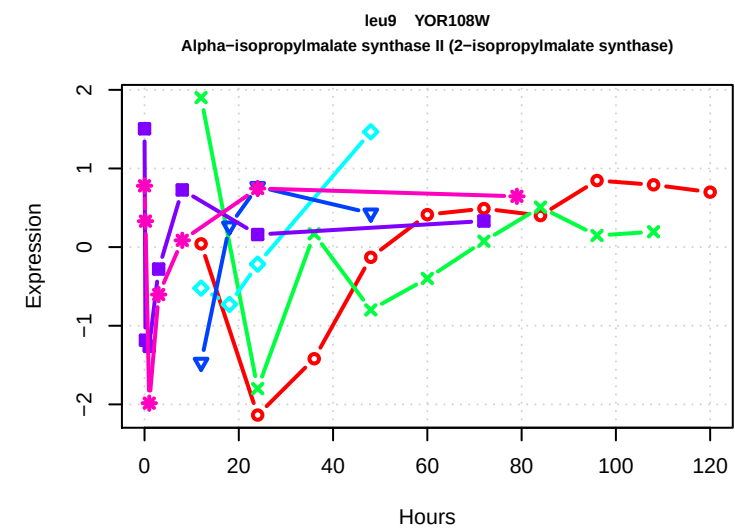
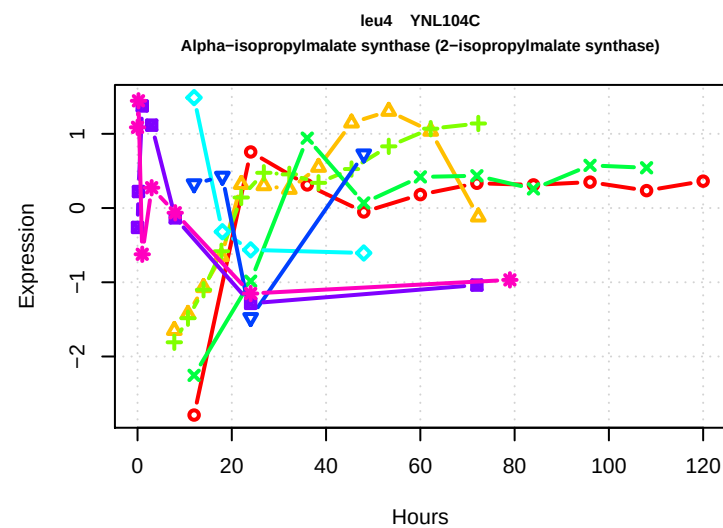
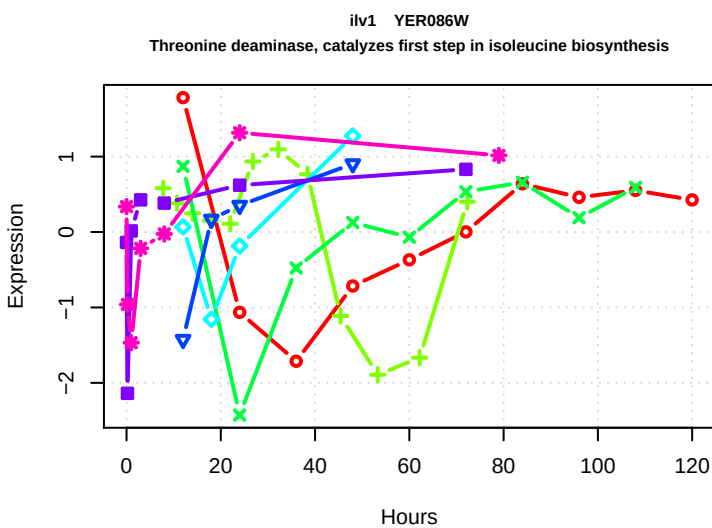
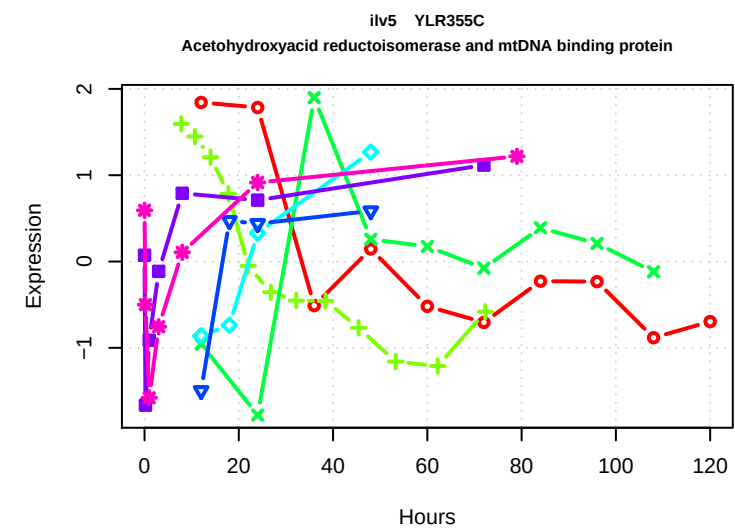
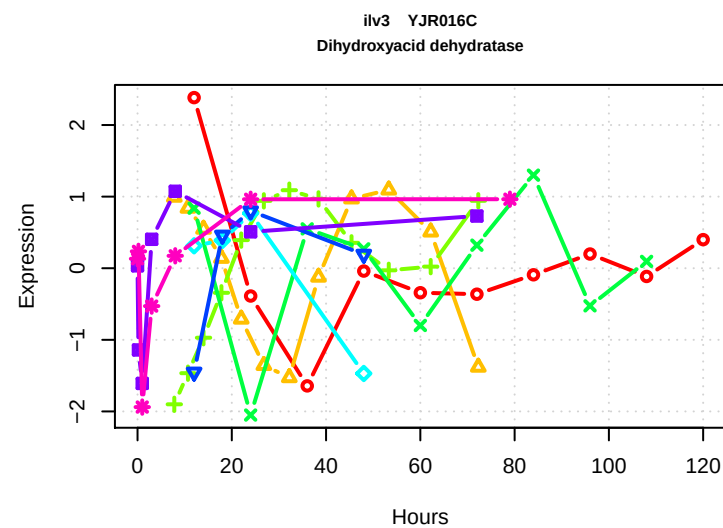
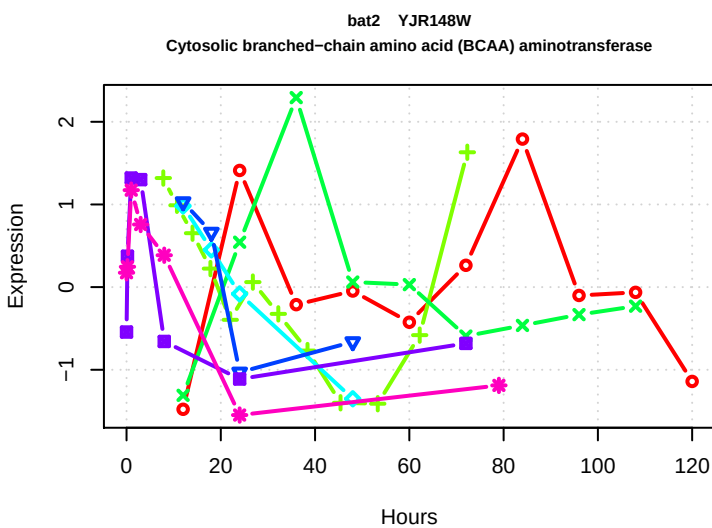
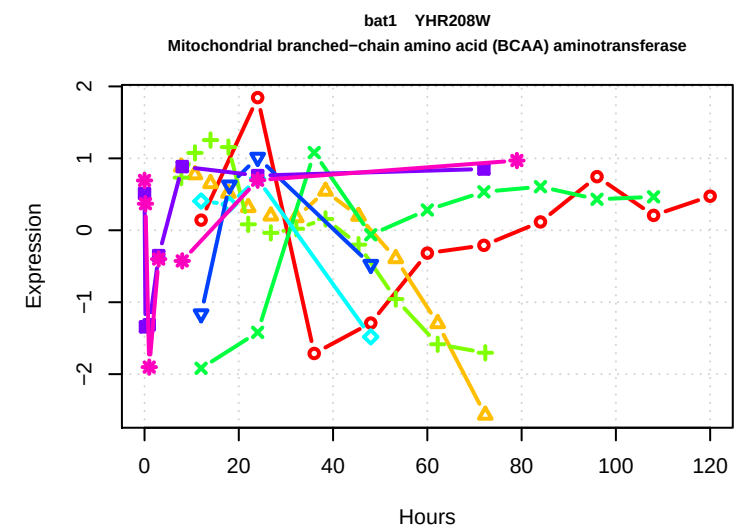
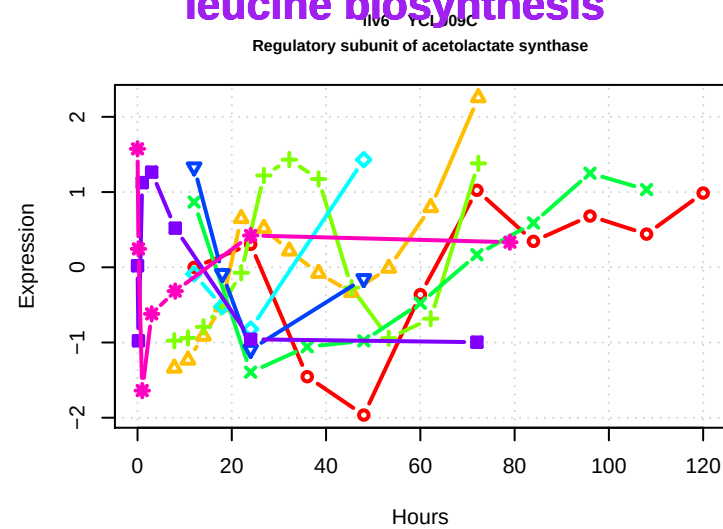
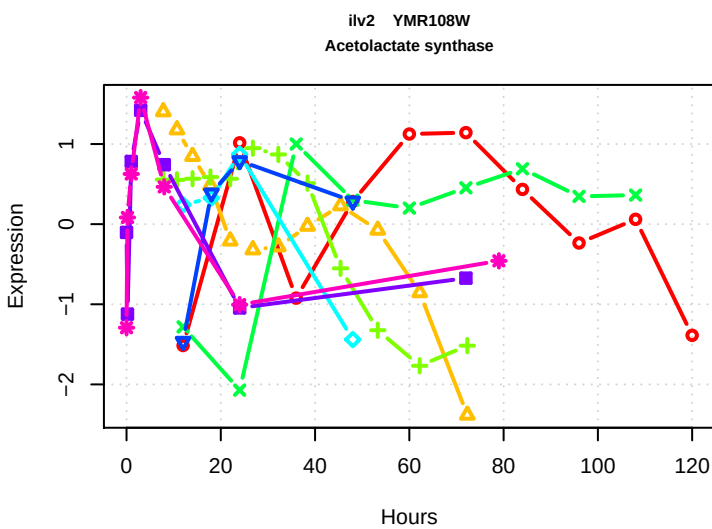
phospholipids degradation

phospholipids degradation

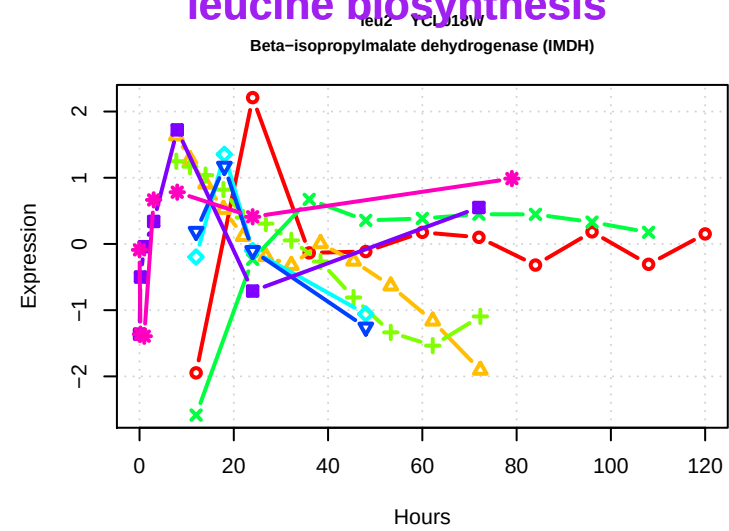
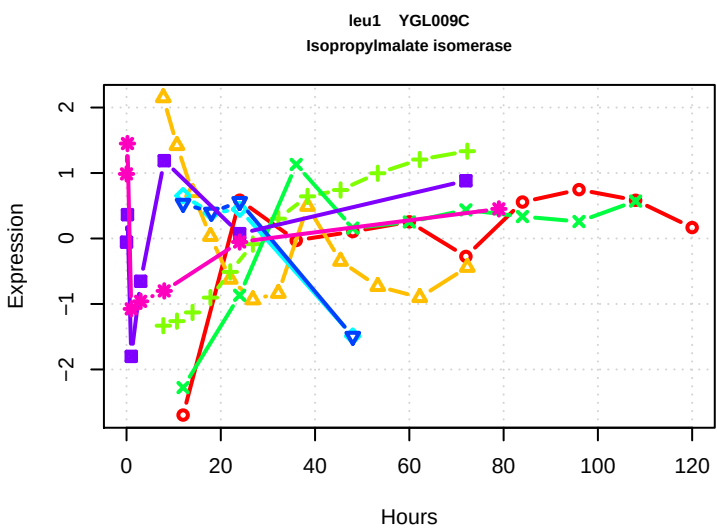


leucine biosynthesis

leucine biosynthesis

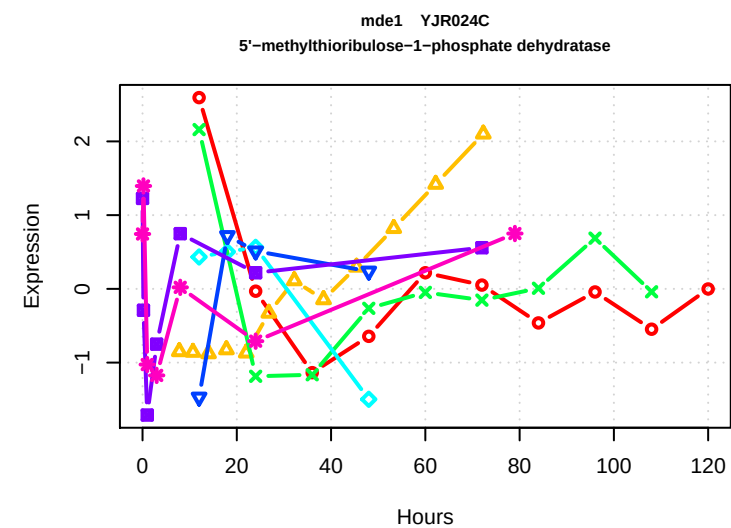
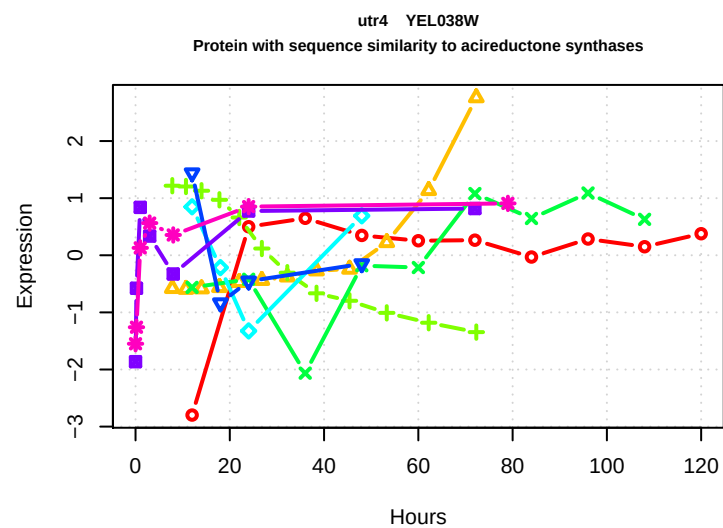
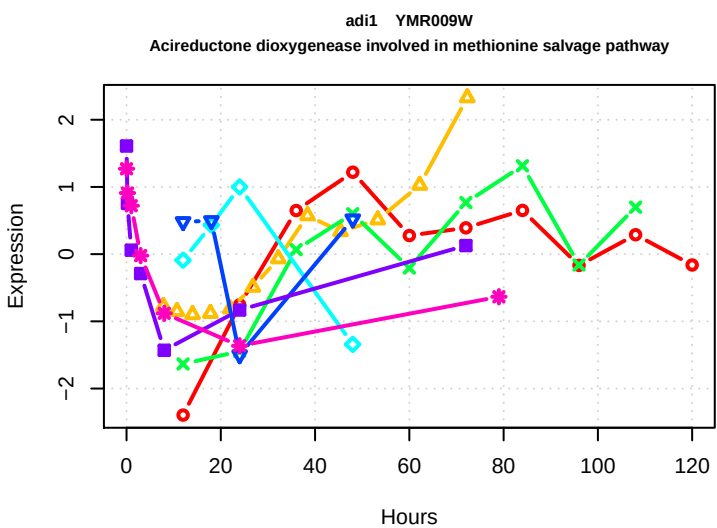
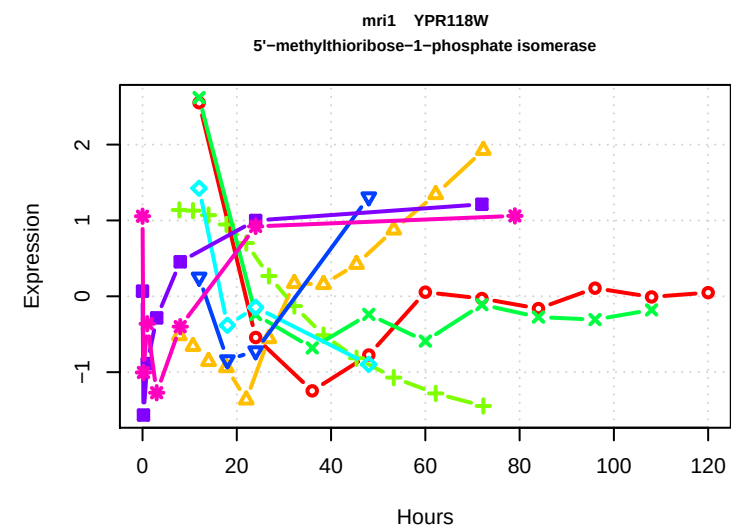
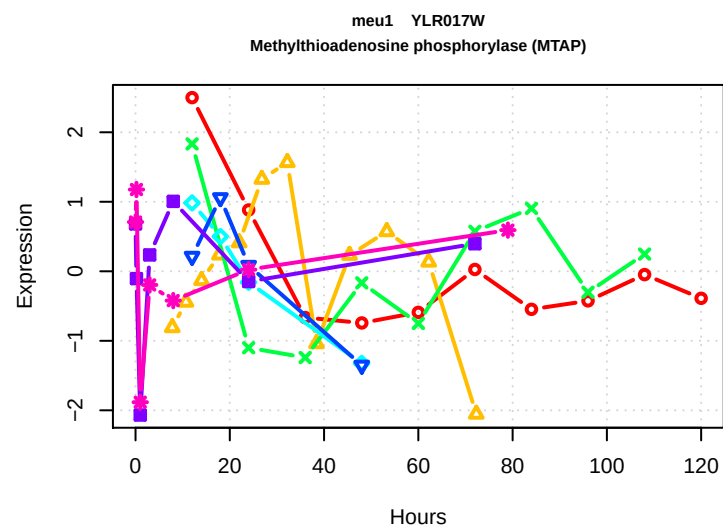
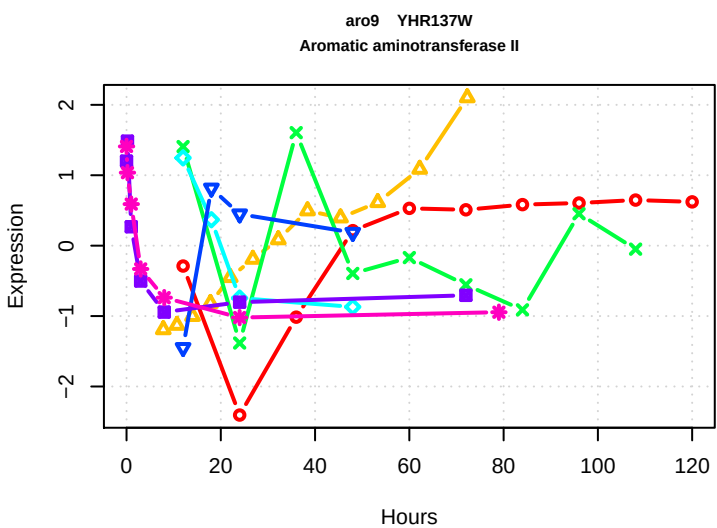
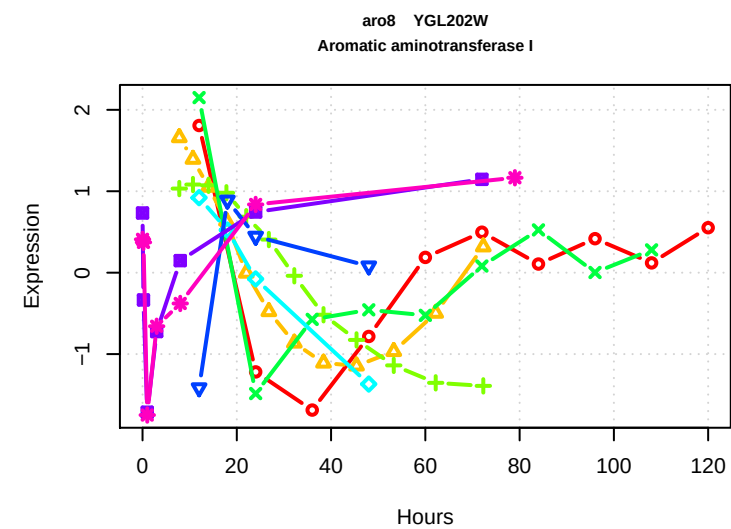
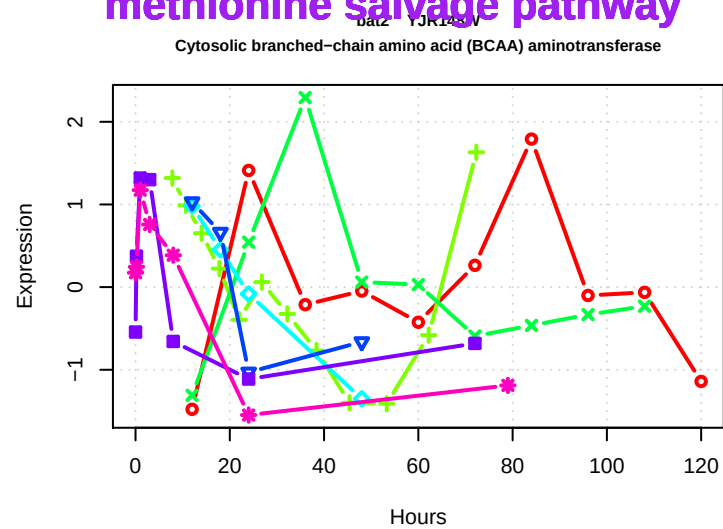
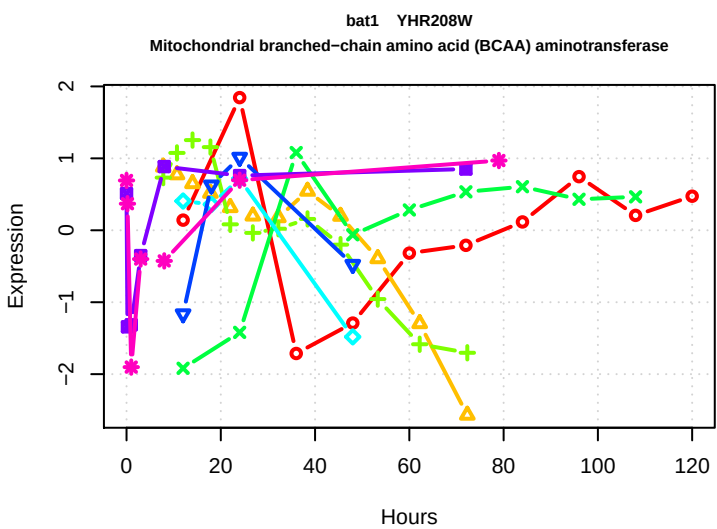


leucine biosynthesis



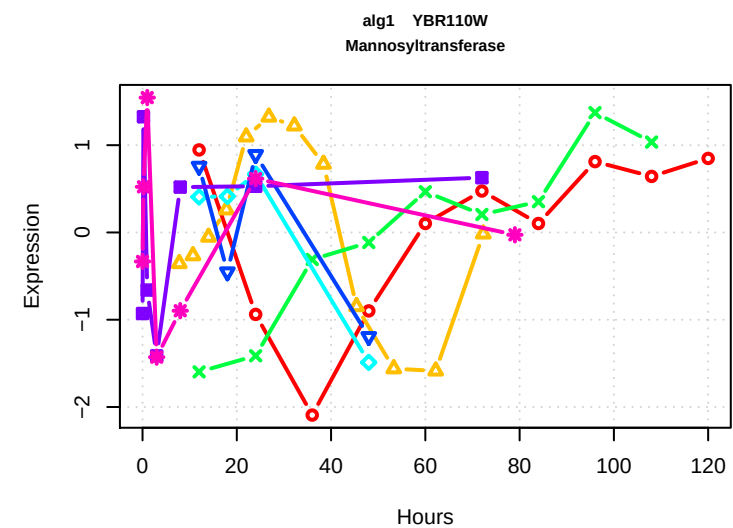
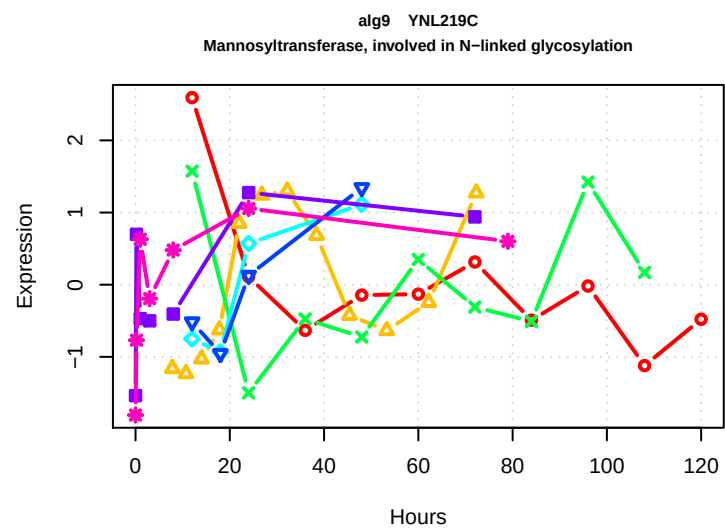
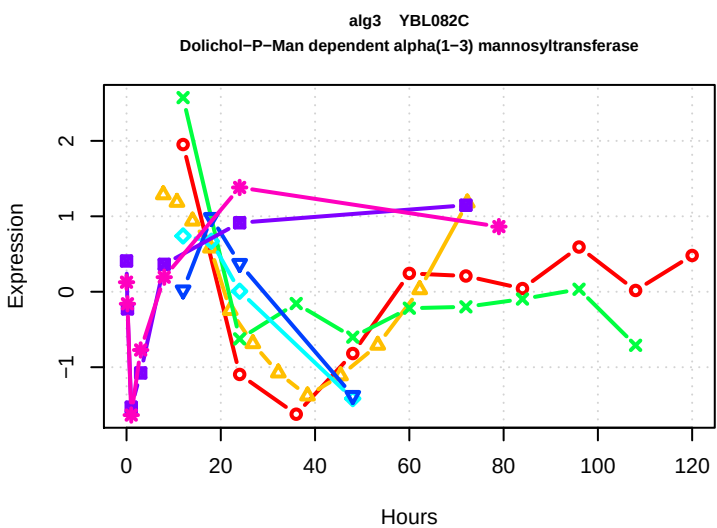
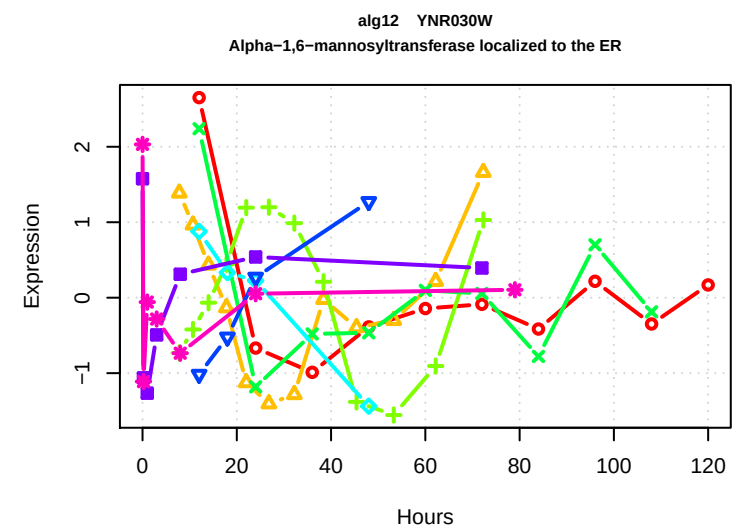
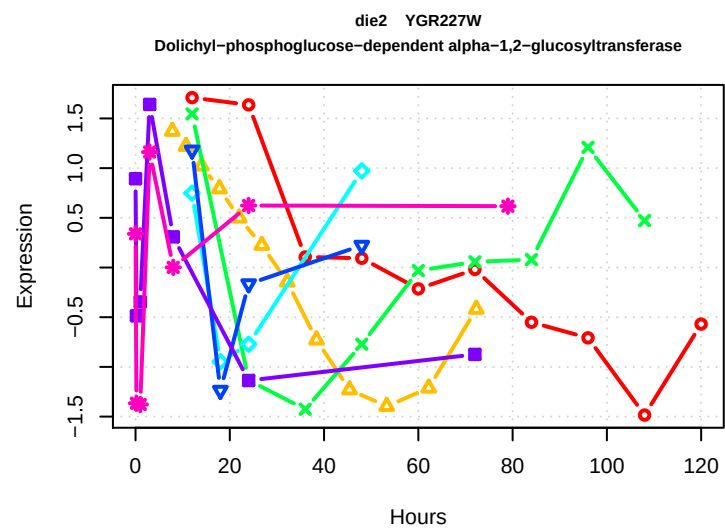
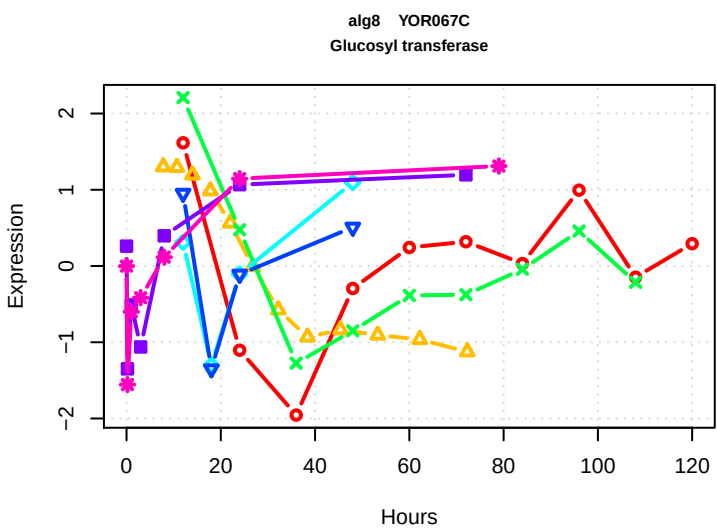
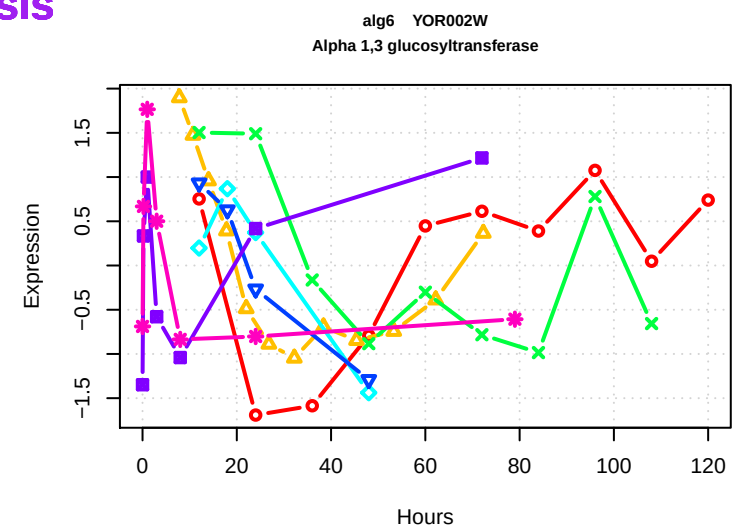
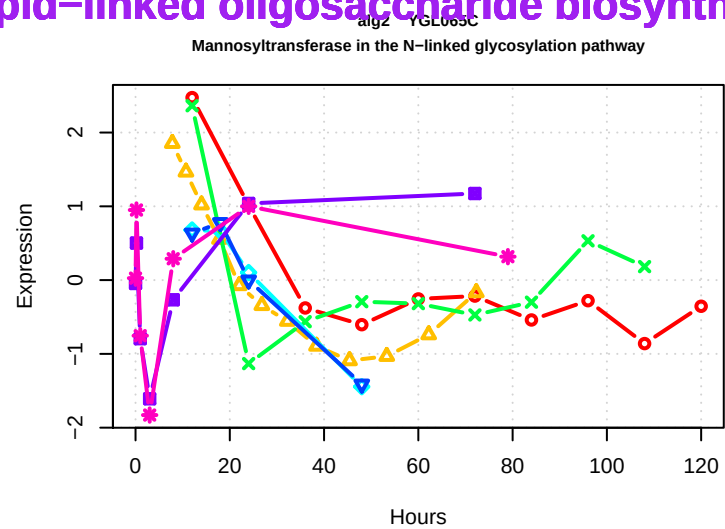
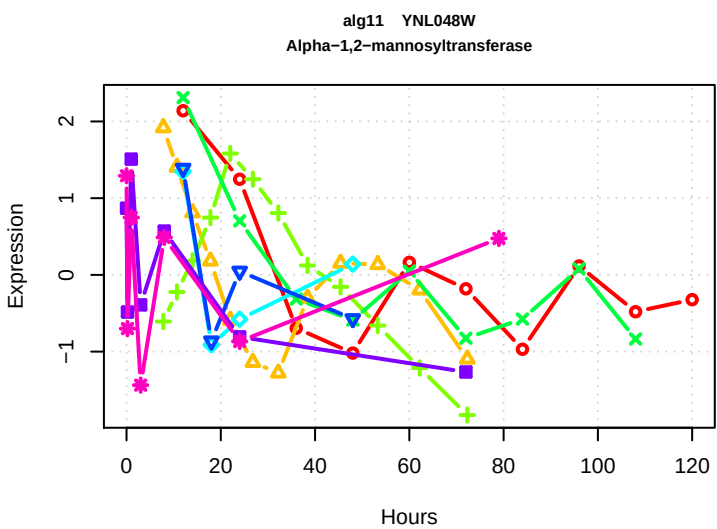
methionine salvage pathway

methionine salvage pathway

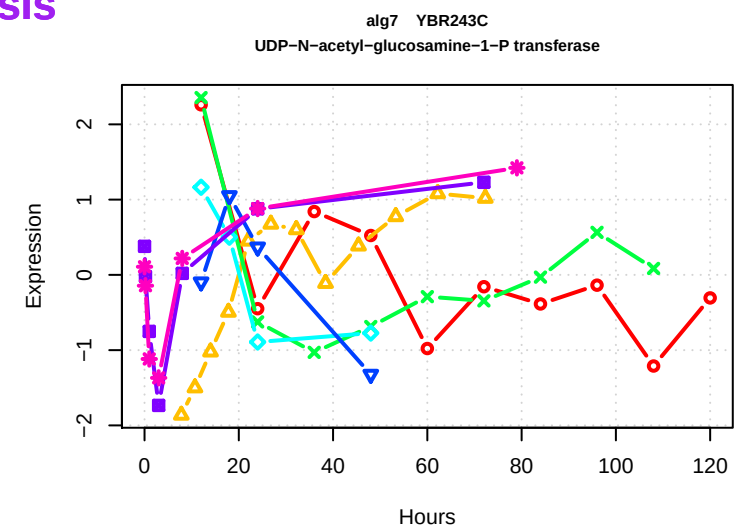
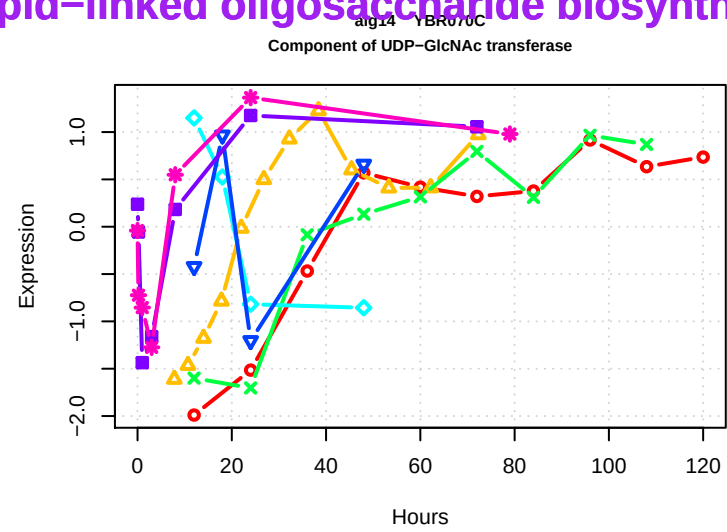
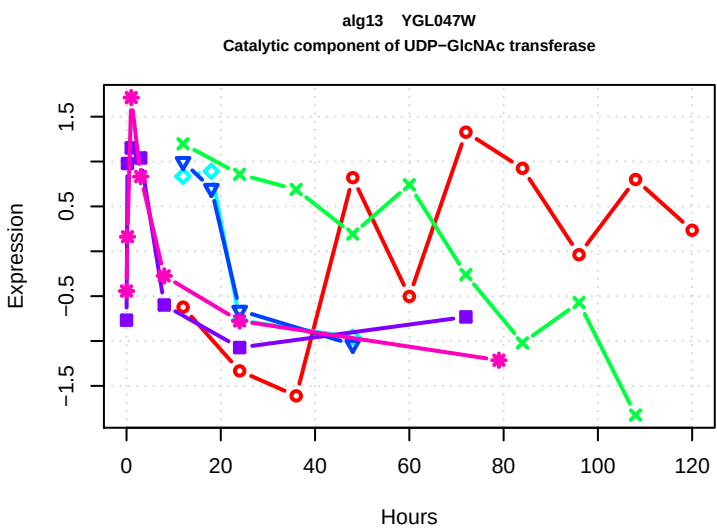


lipid-linked oligosaccharide biosynthesis

lipid-linked oligosaccharide biosynthesis

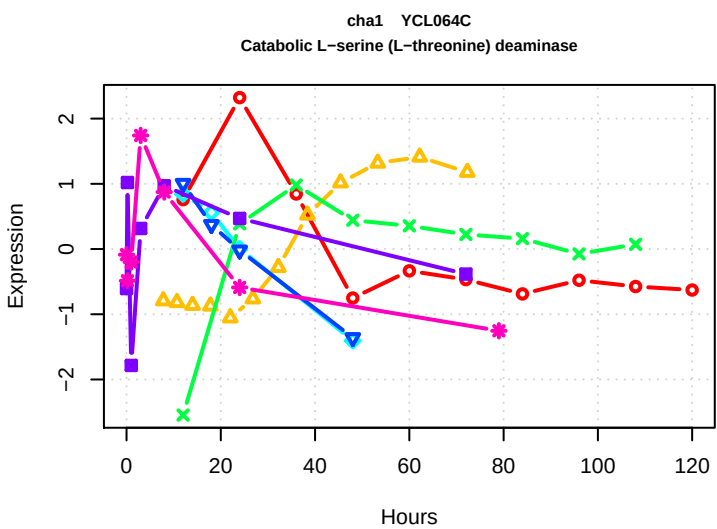


lipid-linked oligosaccharide biosynthesis



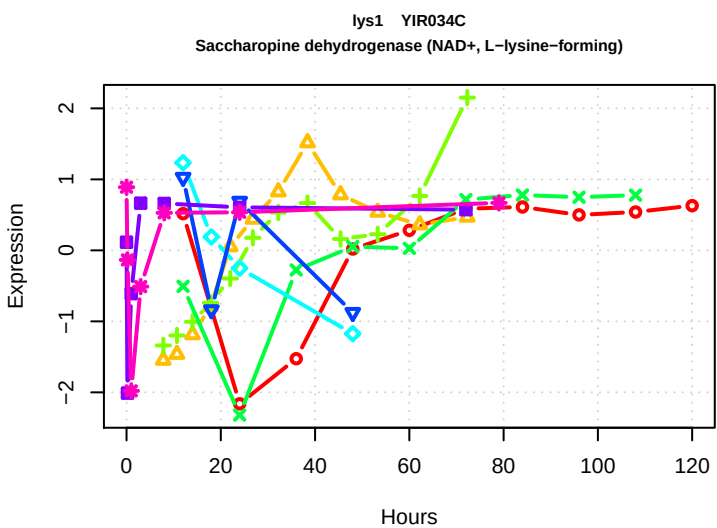
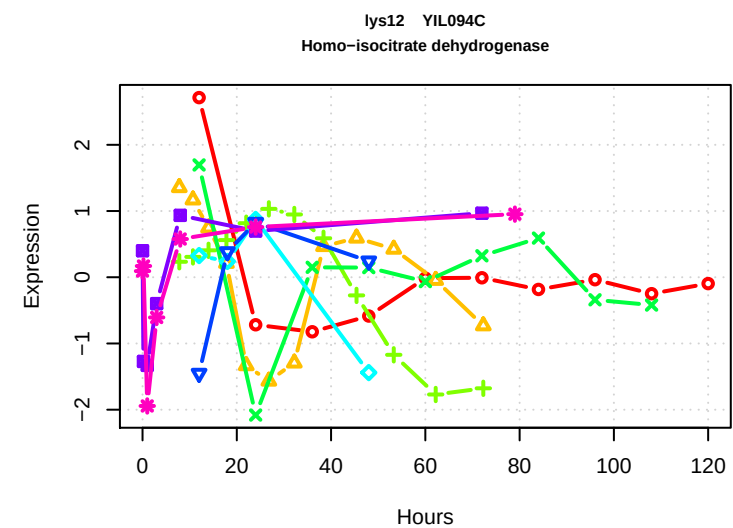
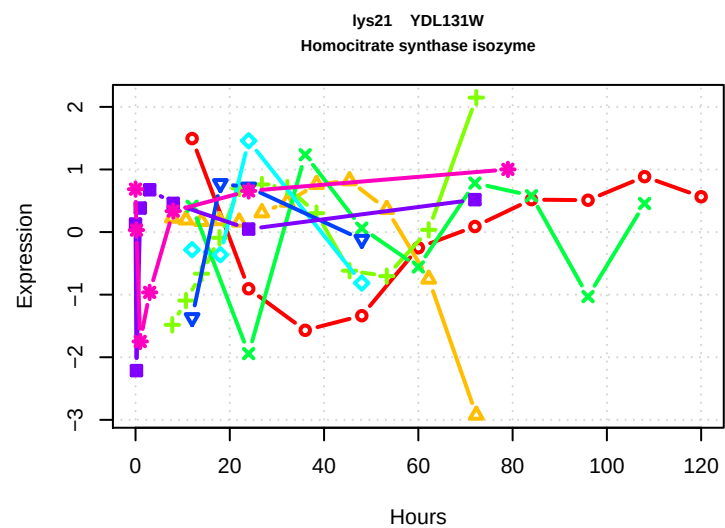
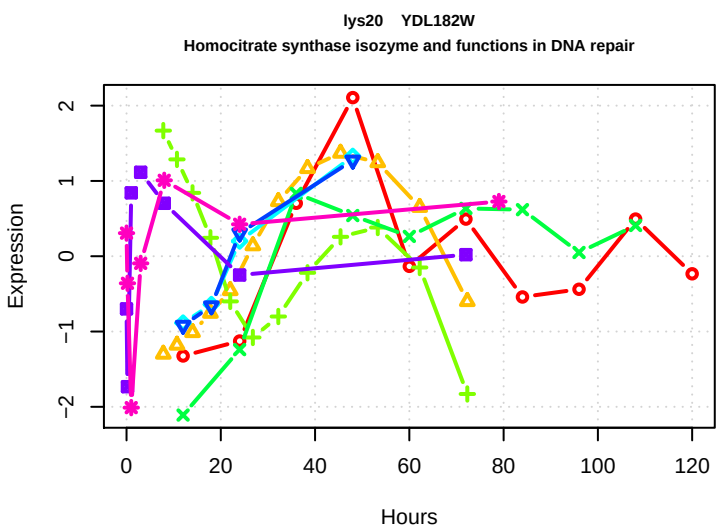
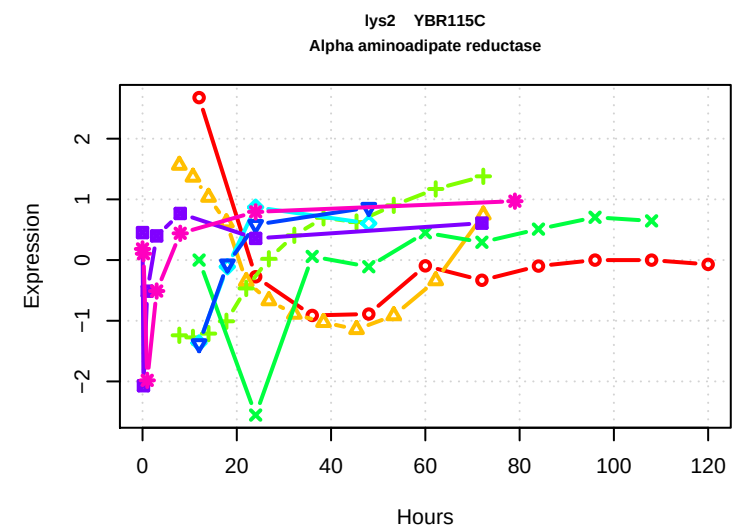
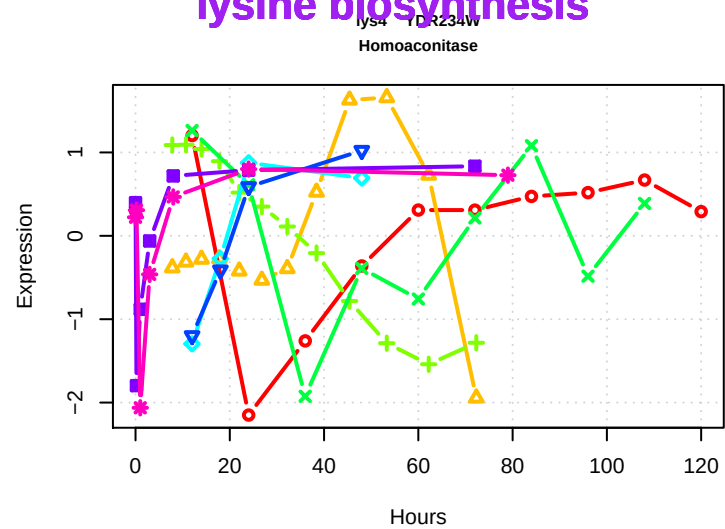
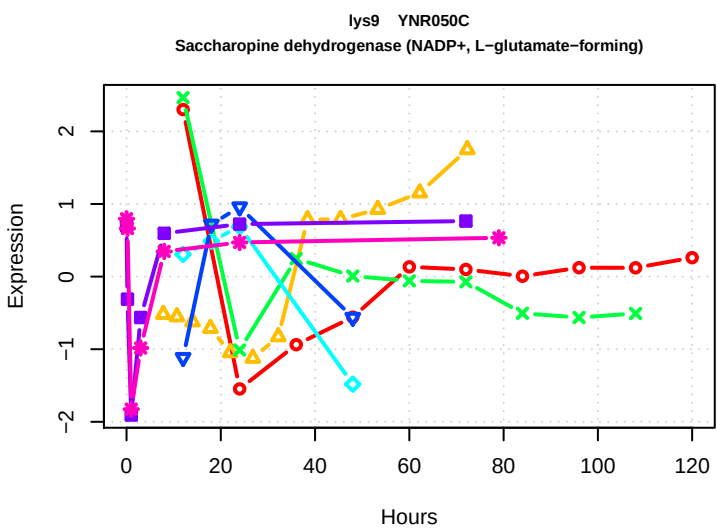
L-serine degradation

L-serine degradation



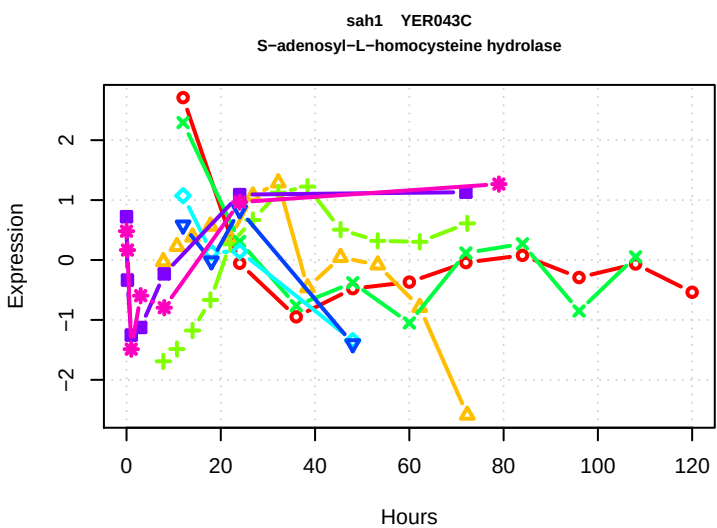
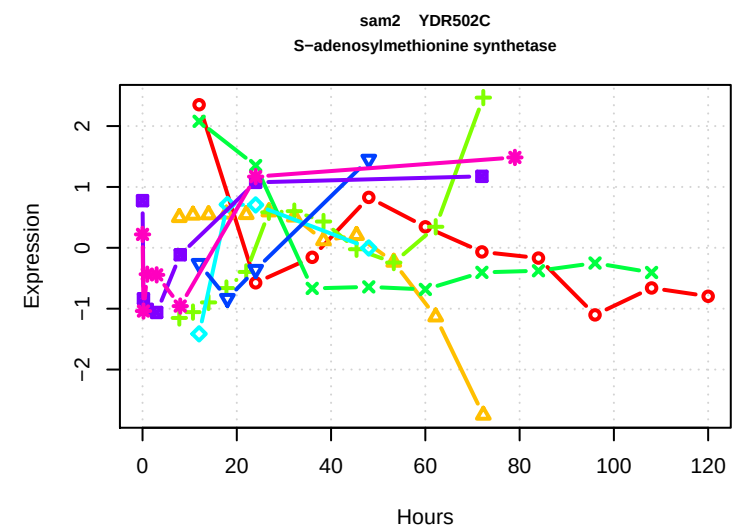
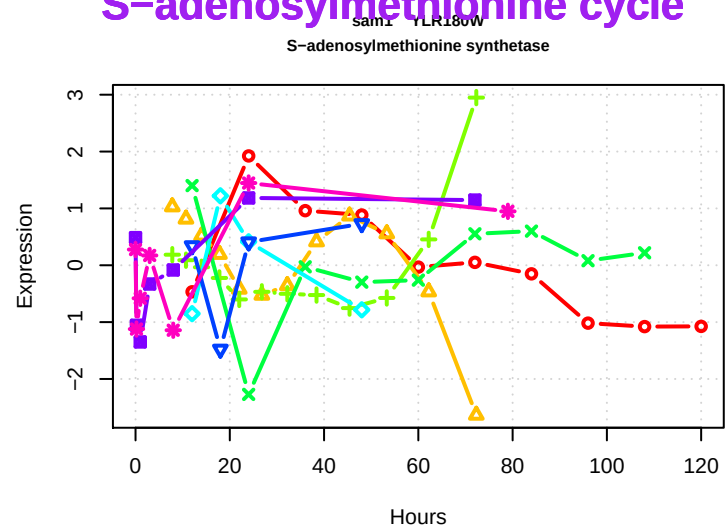
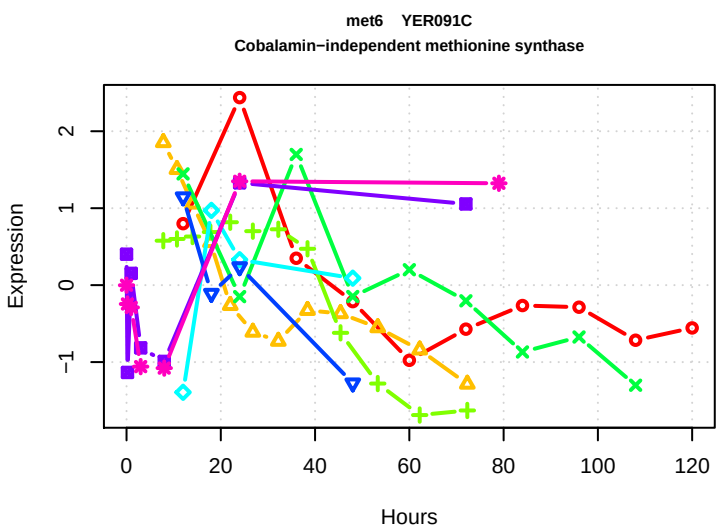
lysine biosynthesis

lysine biosynthesis



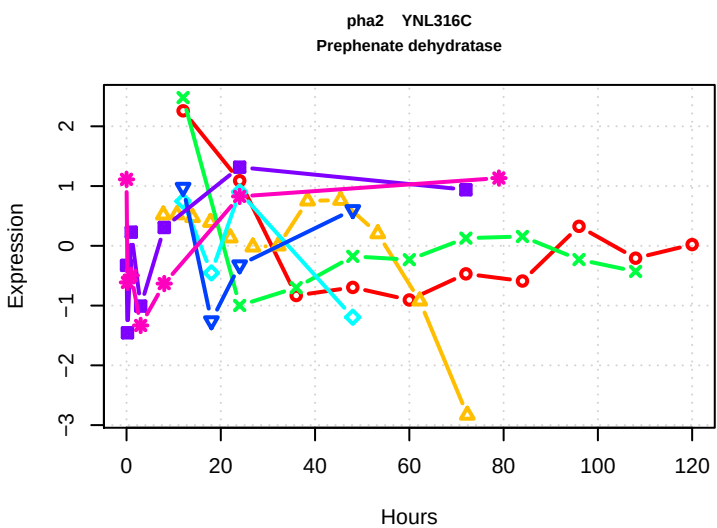
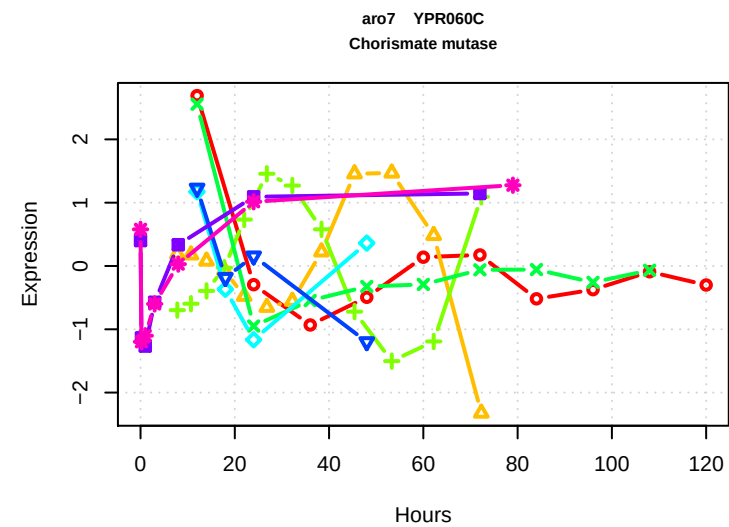
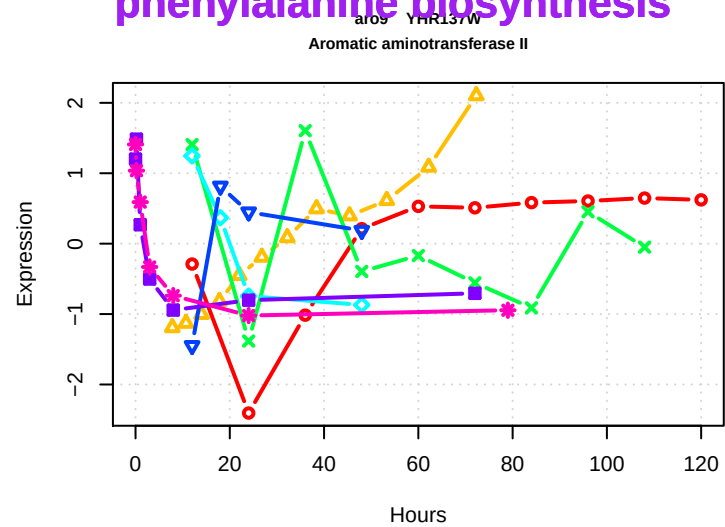
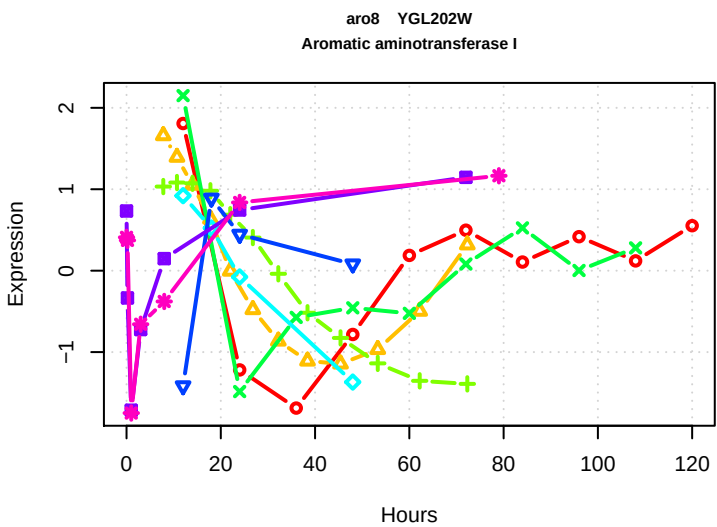
S-adenosylmethionine cycle

S-adenosylmethionine cycle



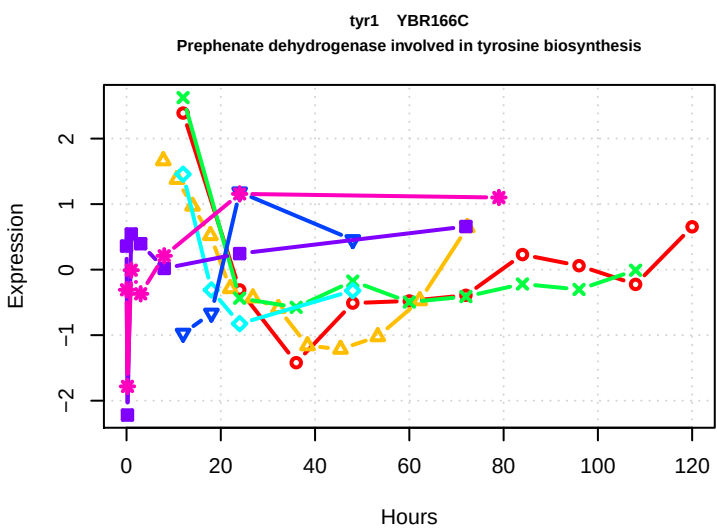
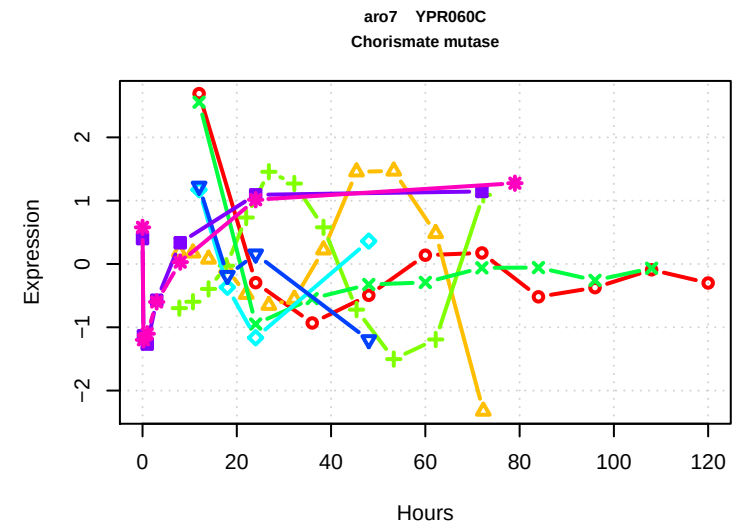
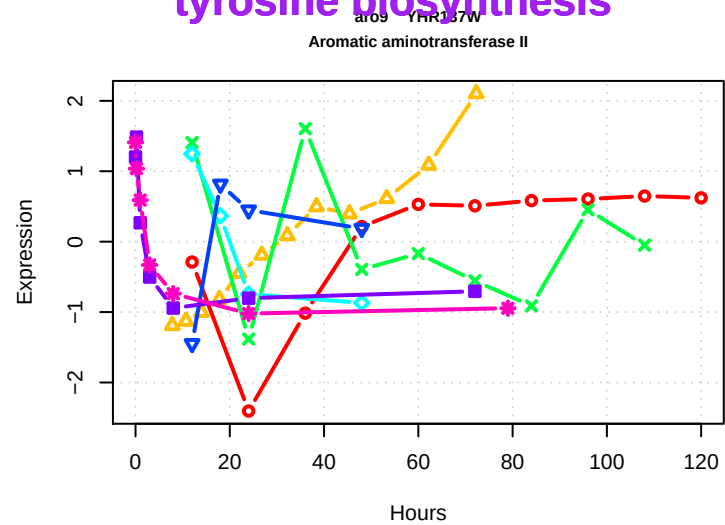
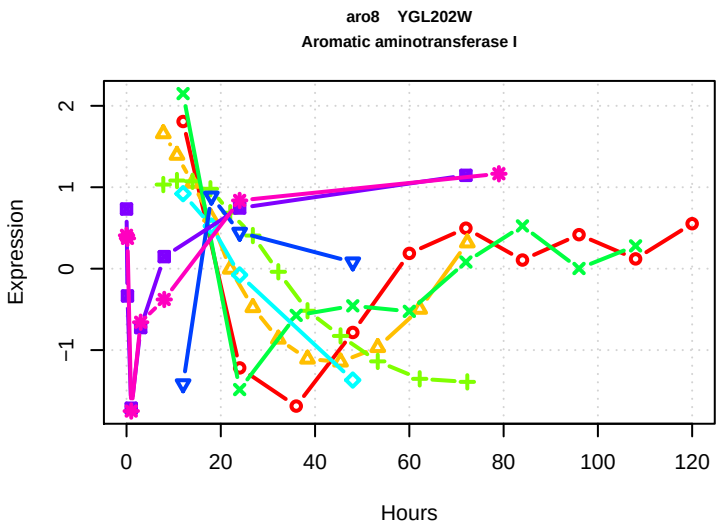
phenylalanine biosynthesis

phenylalanine biosynthesis



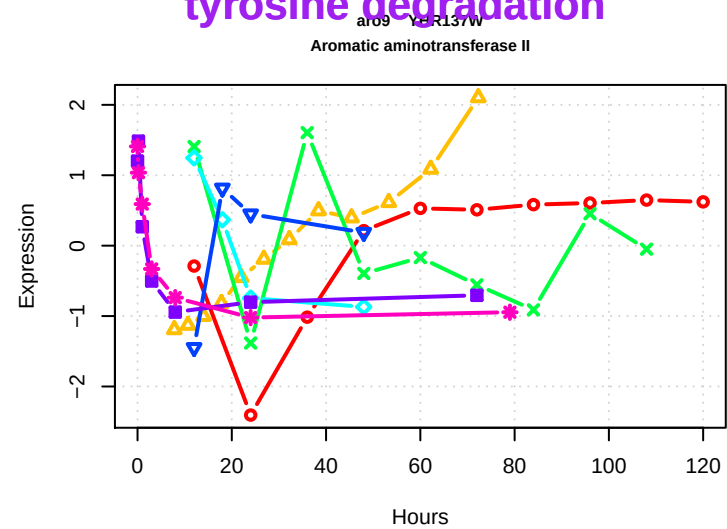
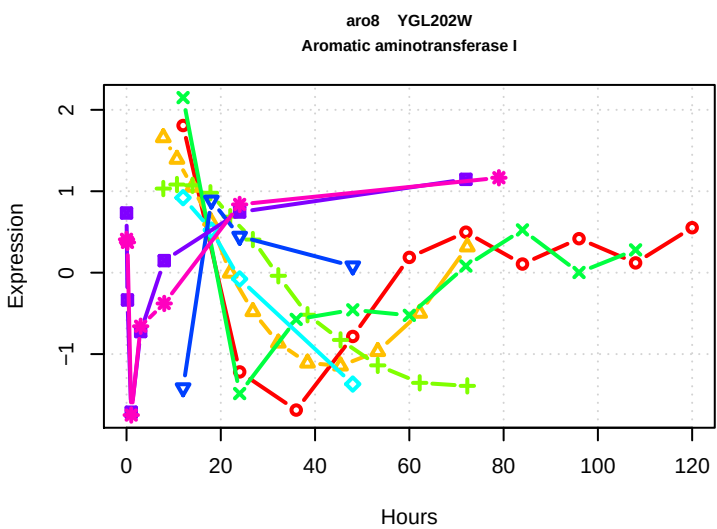
tyrosine biosynthesis

tyrosine biosynthesis



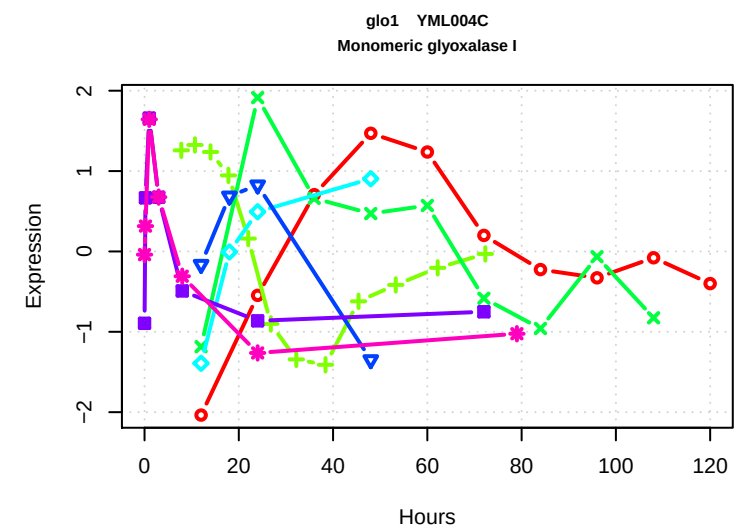
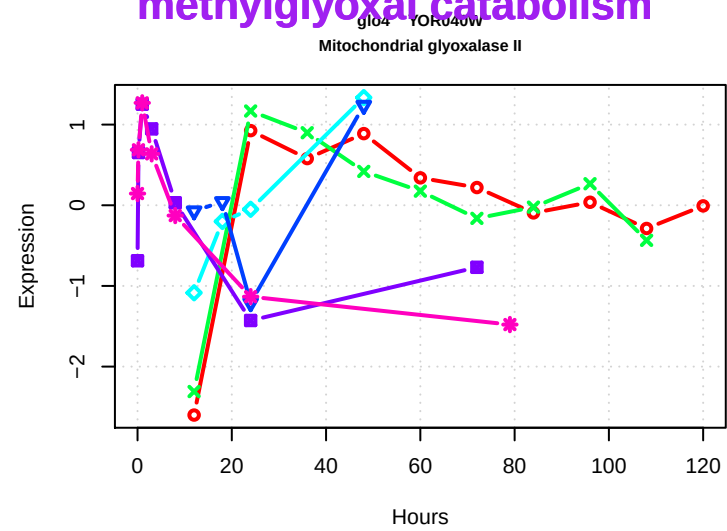
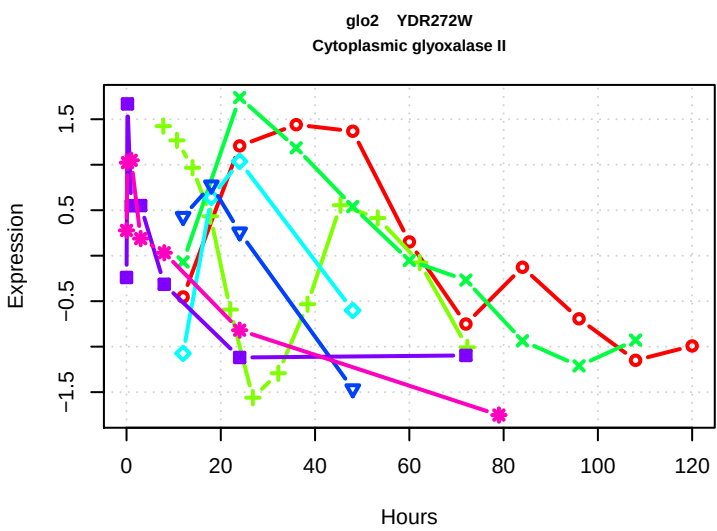
tyrosine degradation

tyrosine degradation



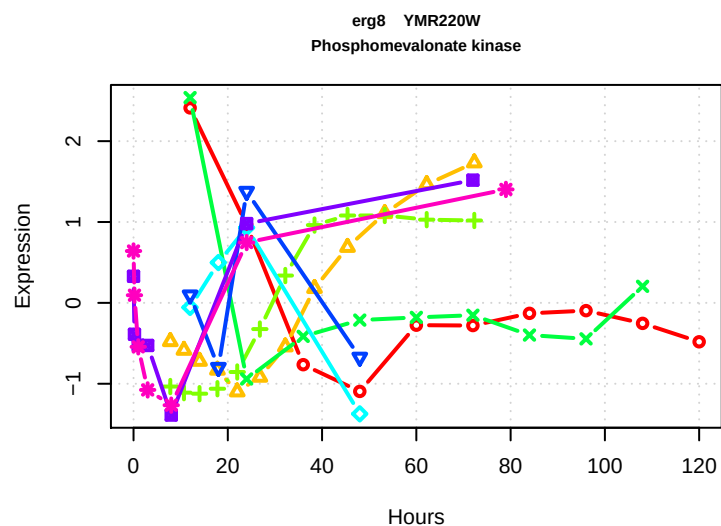
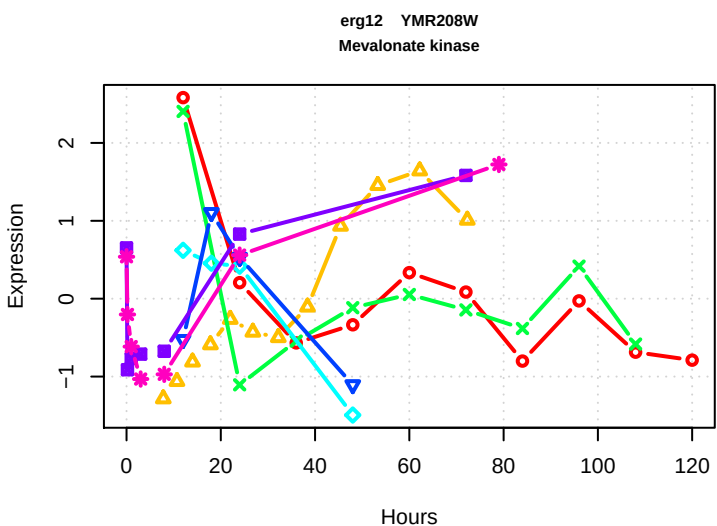
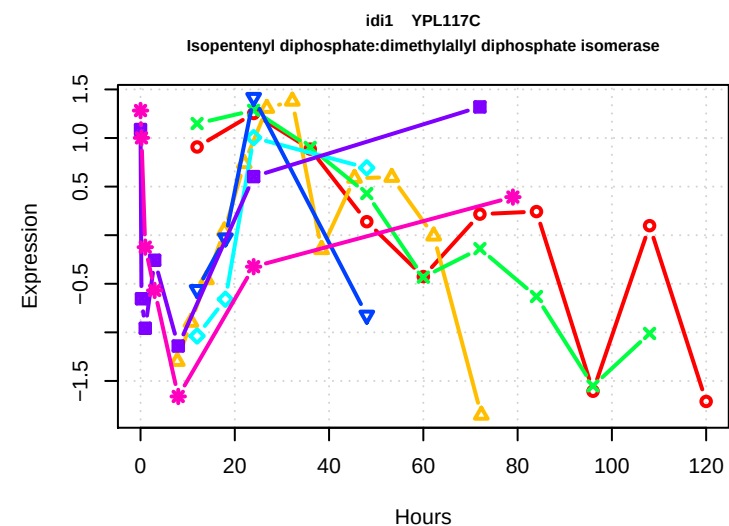
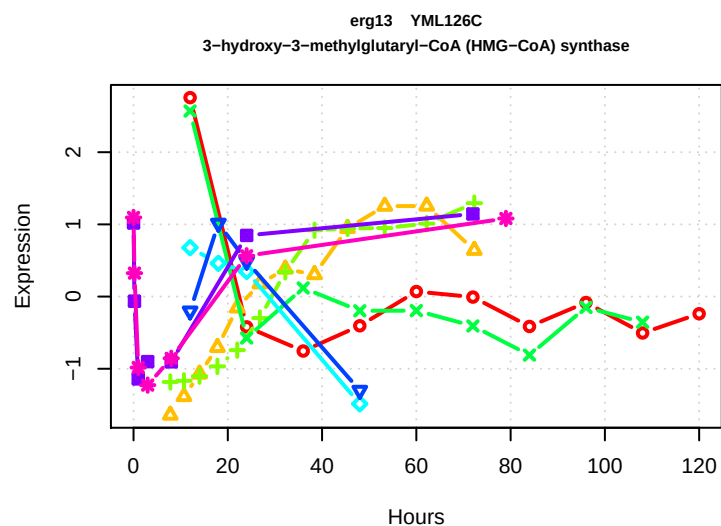
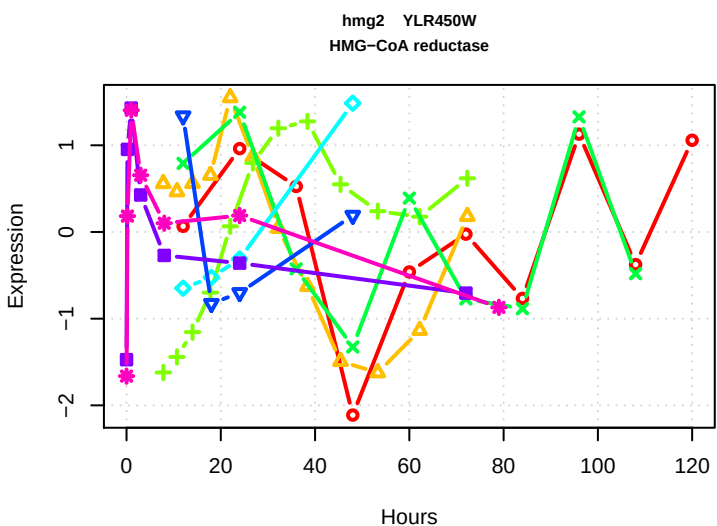
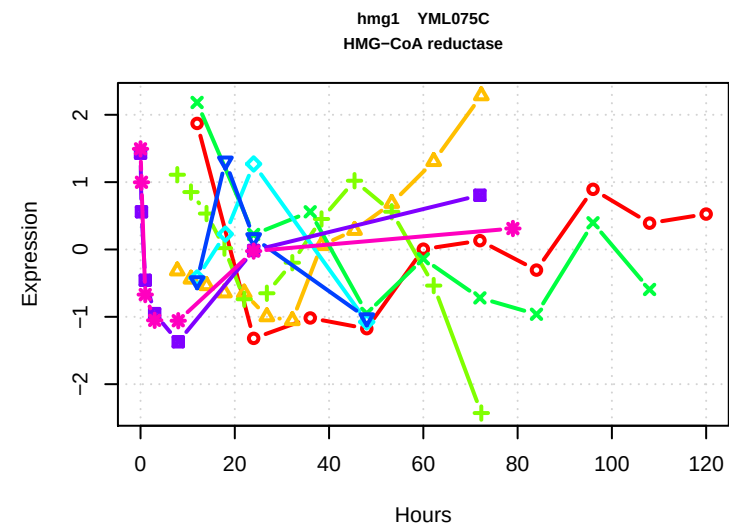
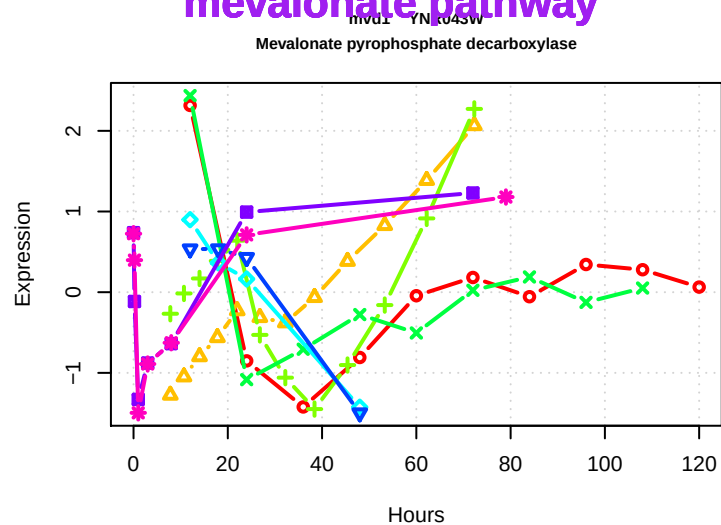
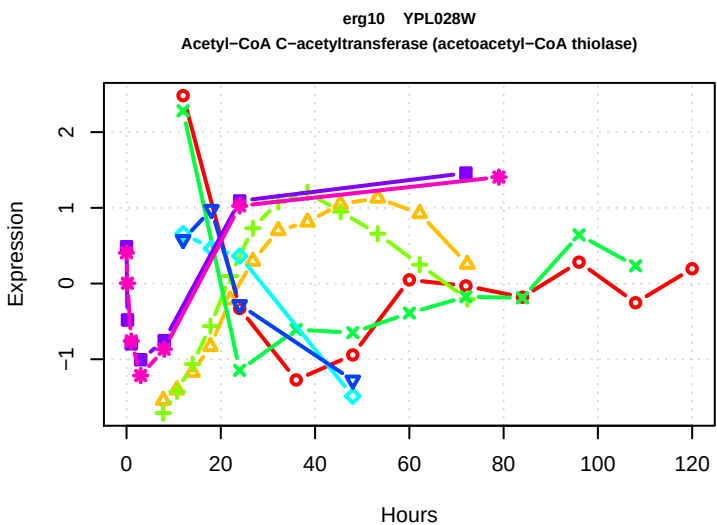
methylglyoxal catabolism

methylglyoxal catabolism



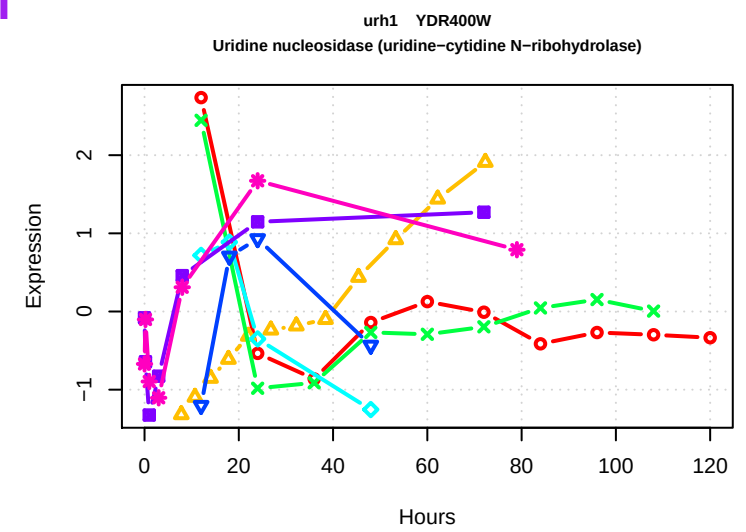
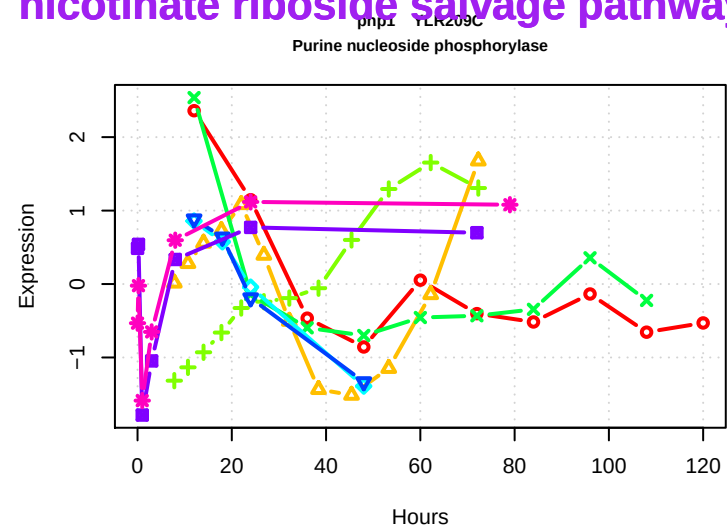
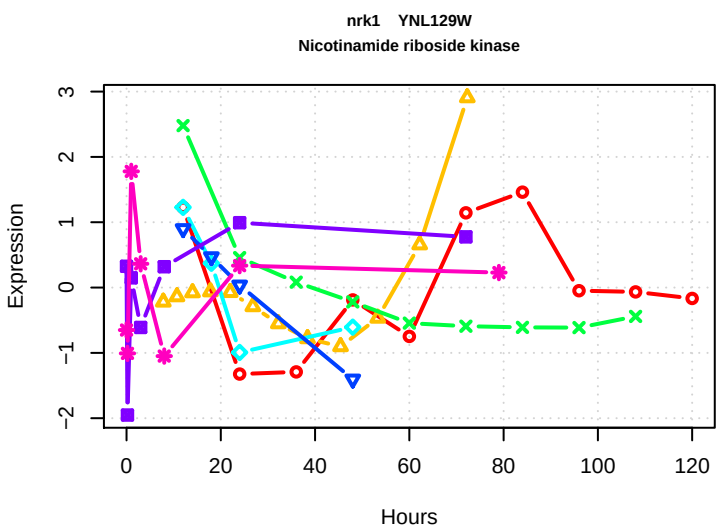
mevalonate pathway

mevalonate pathway



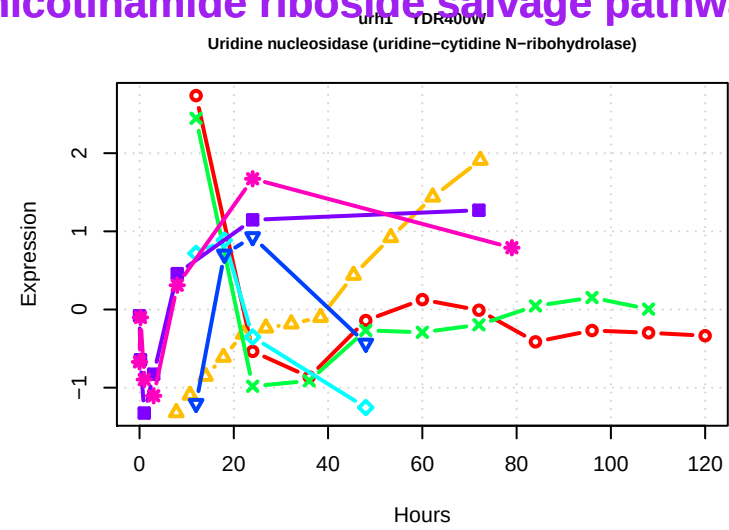
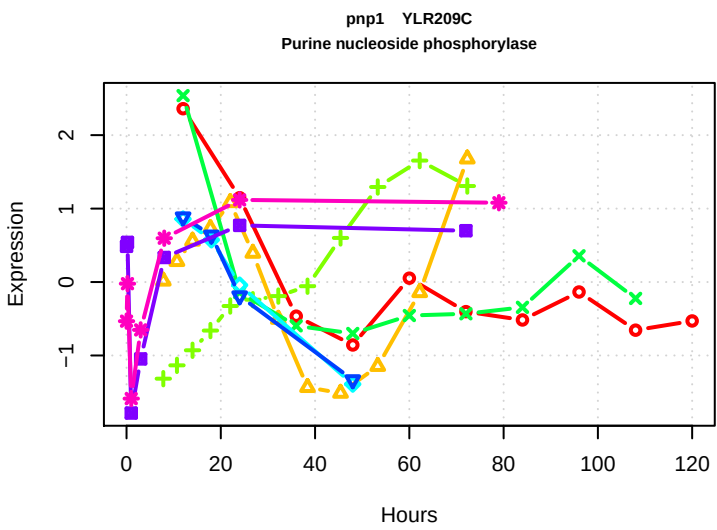
nicotinate riboside salvage pathway I

nicotinate riboside salvage pathway I



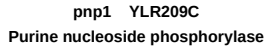
nicotinamide riboside salvage pathway II

nicotinamide riboside salvage pathway II



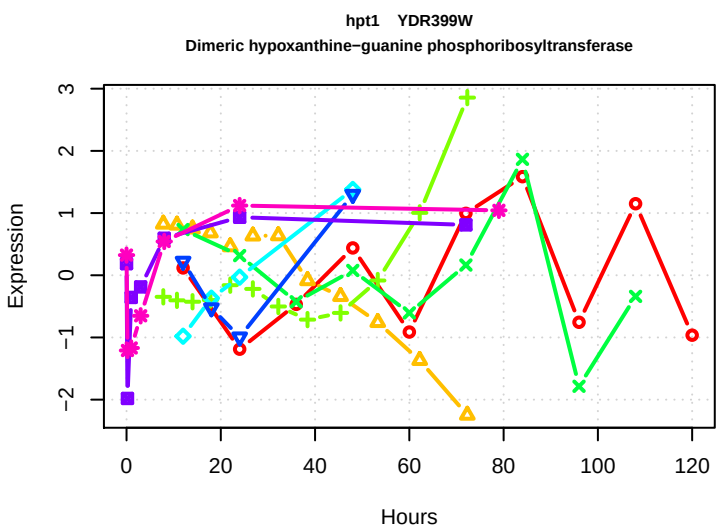
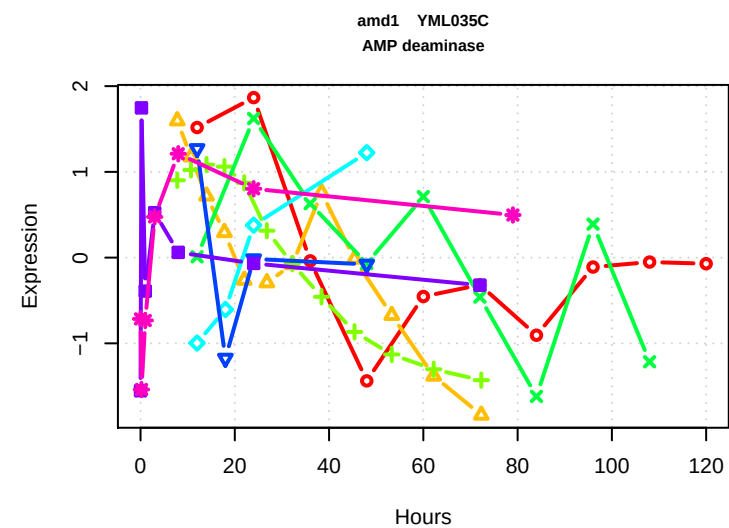
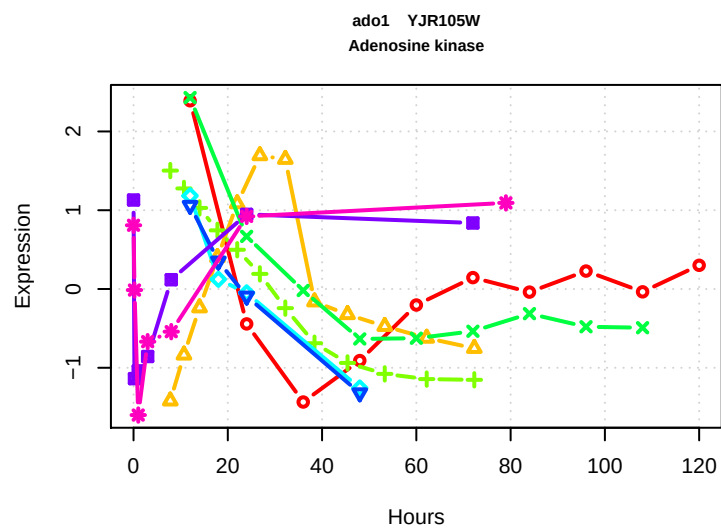
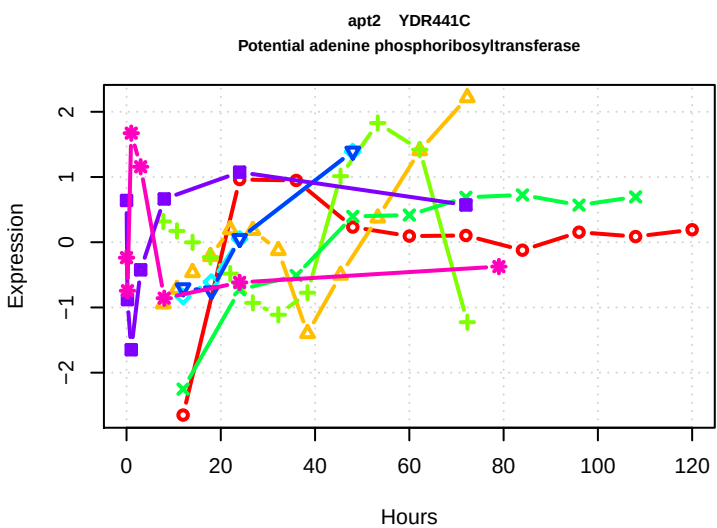
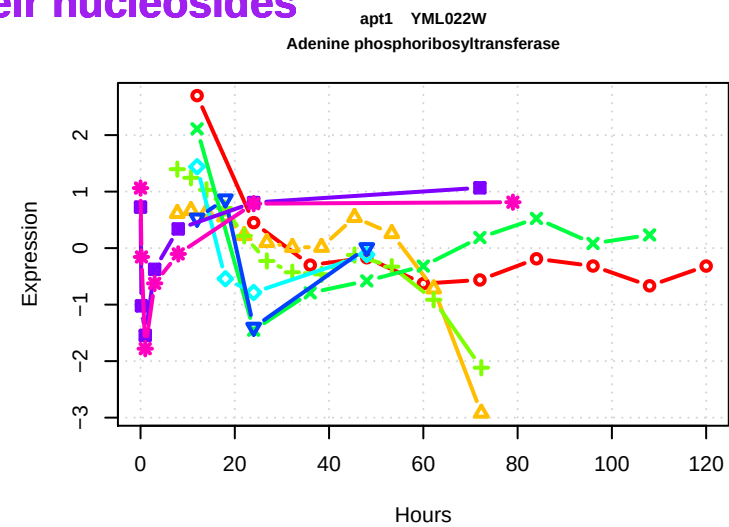
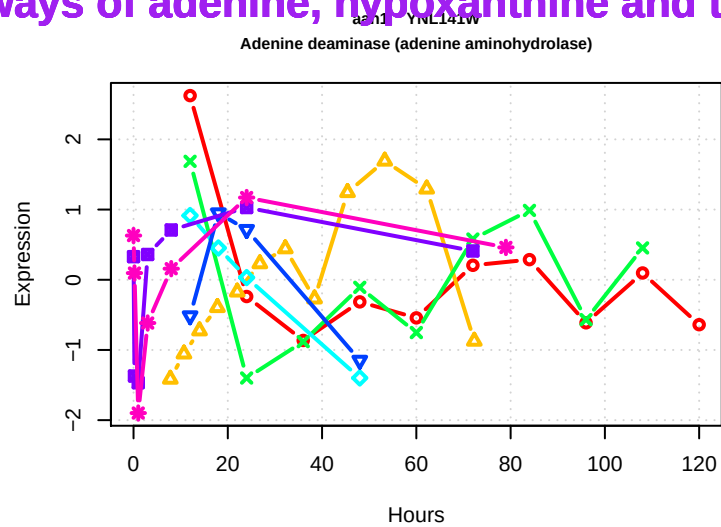
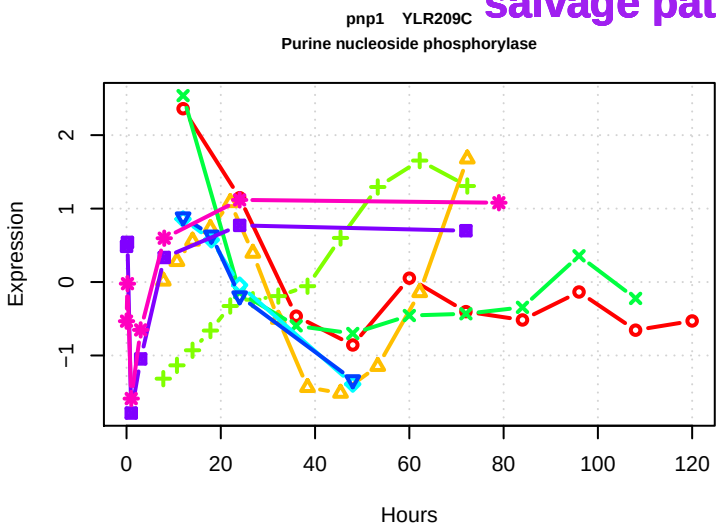
nicotinate riboside salvage pathway II

nicotinate riboside saly



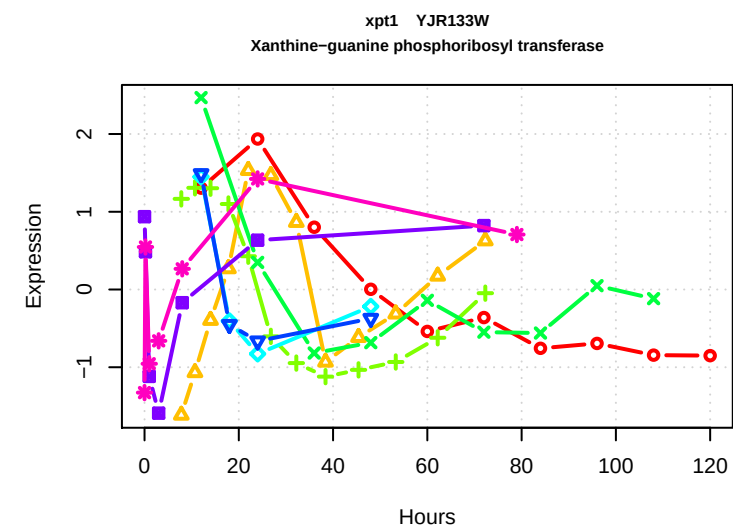
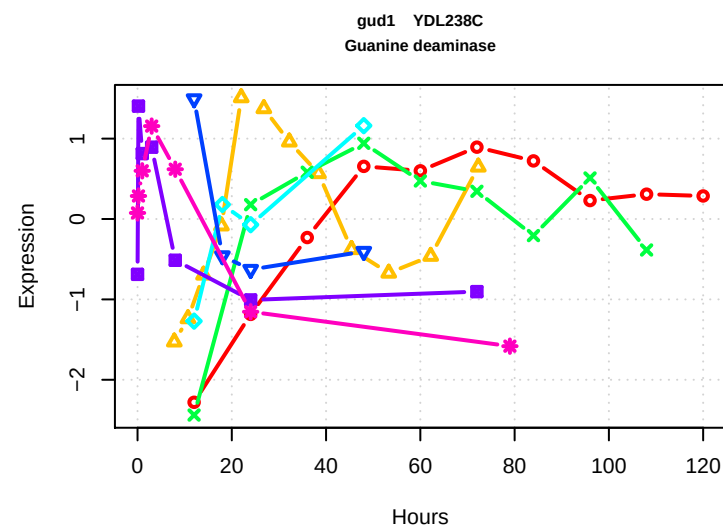
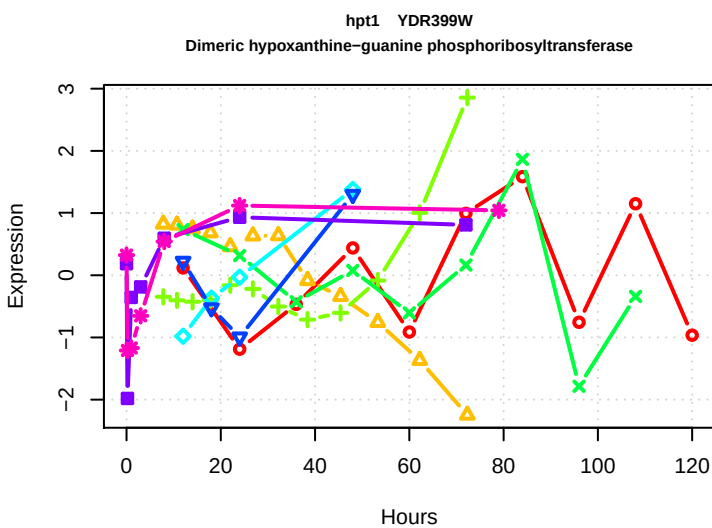
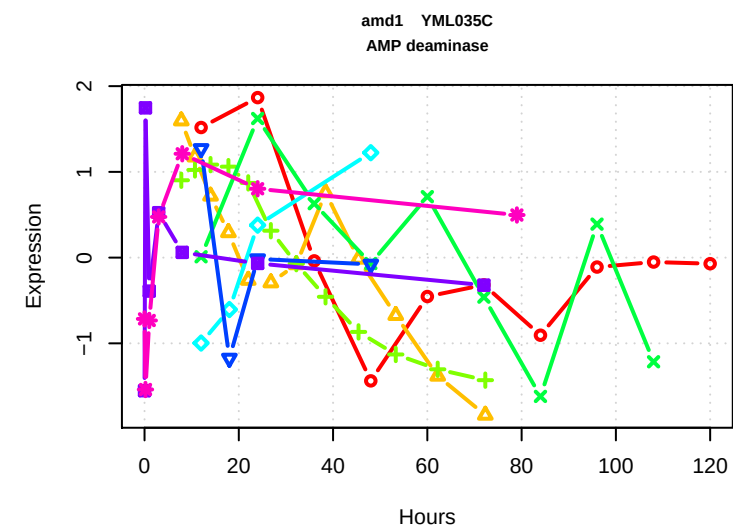
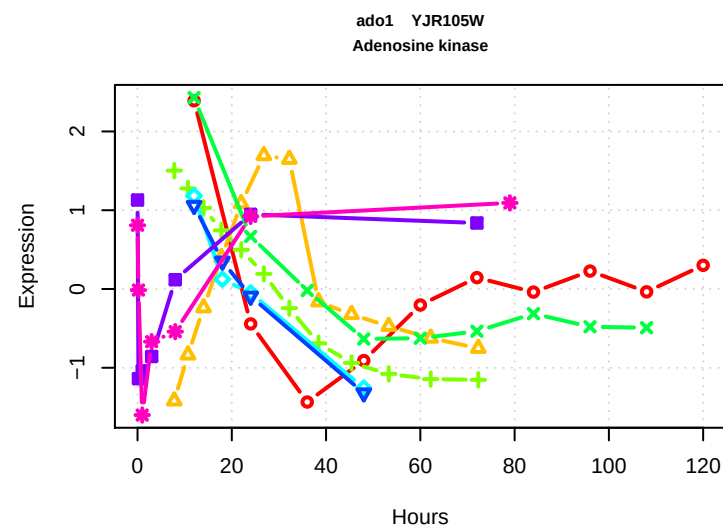
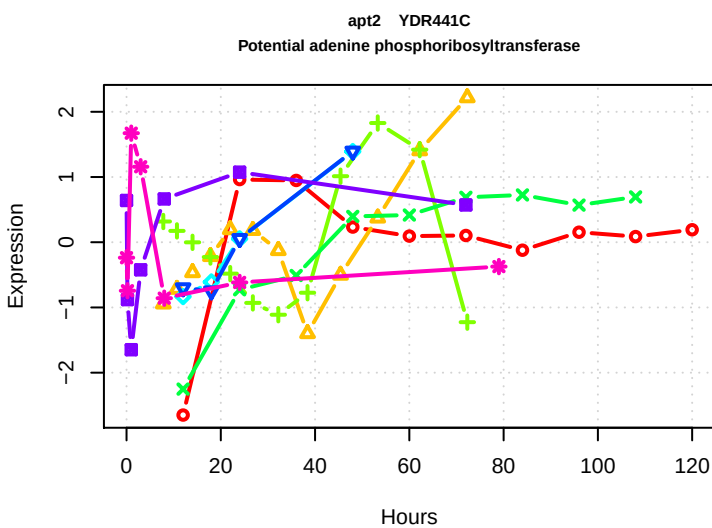
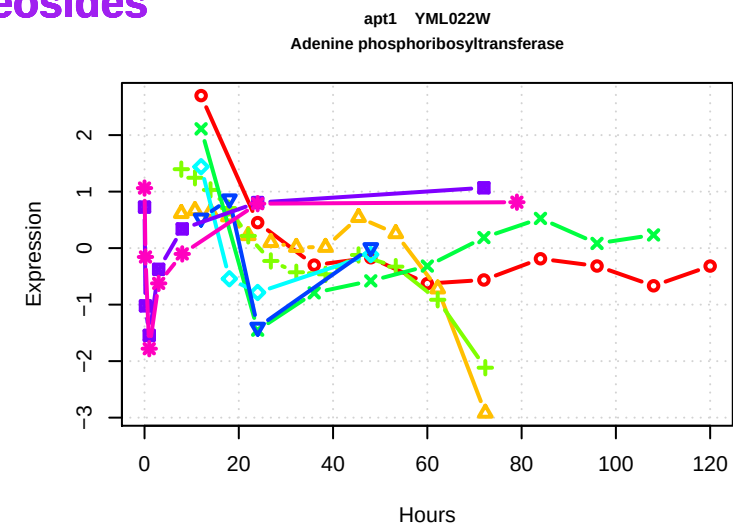
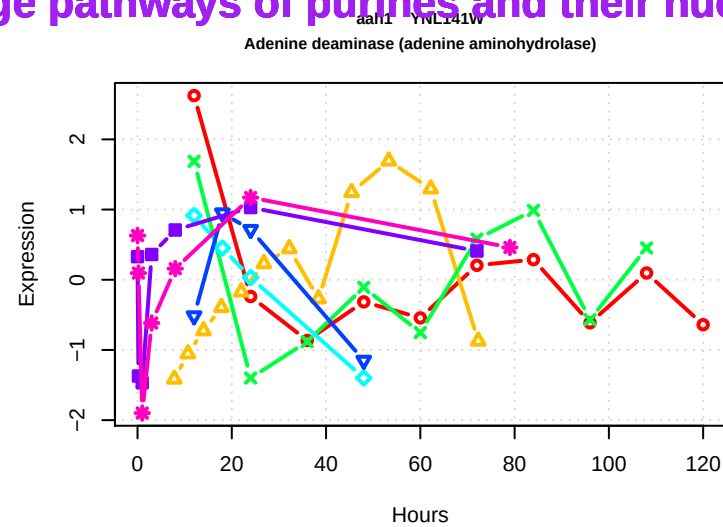
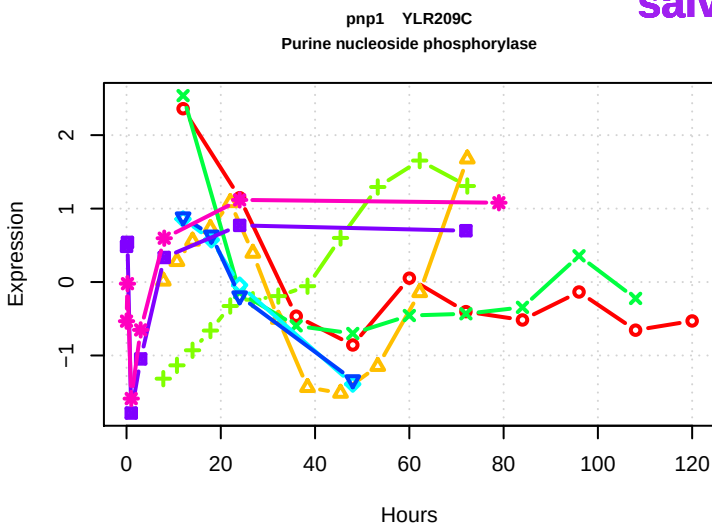
salvage pathways of adenine, hypoxanthine and their nucleosides

salvage pathways of adenine, hypoxanthine and their nucleosides



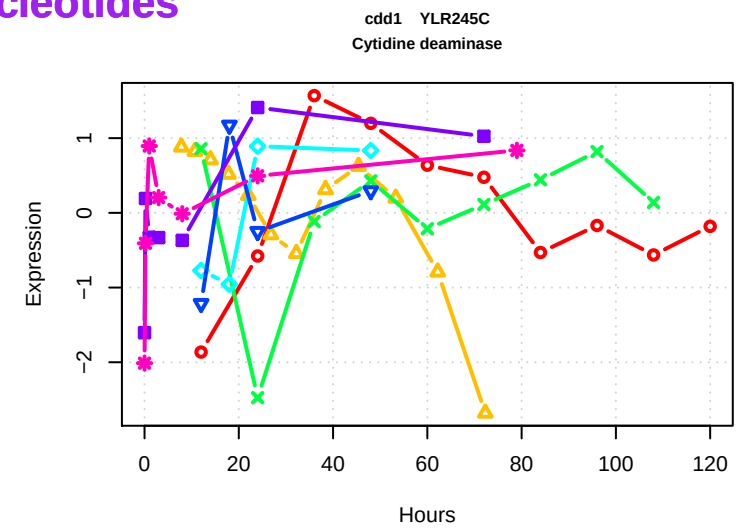
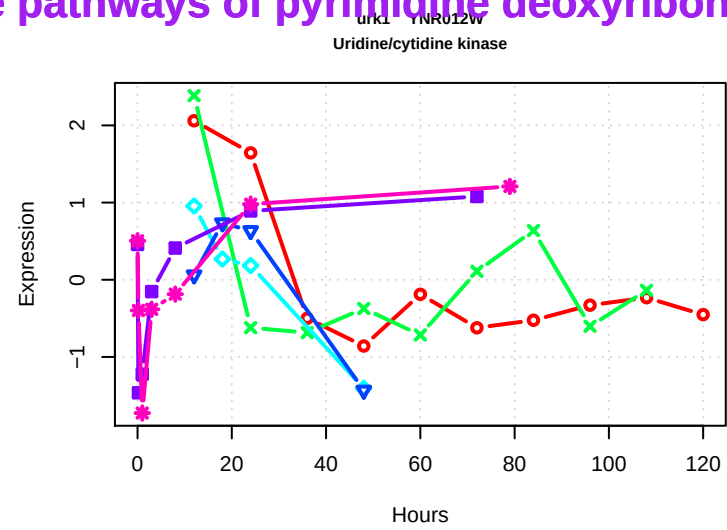
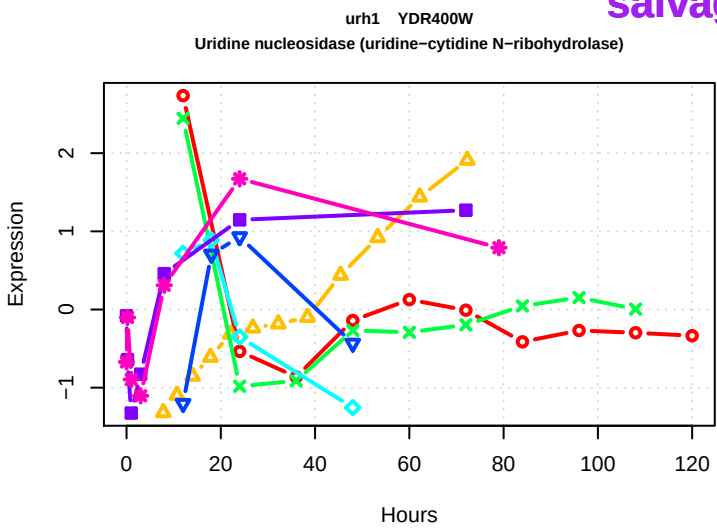
salvage pathways of purines and their nucleosides

salvage pathways of purines and their nucleosides



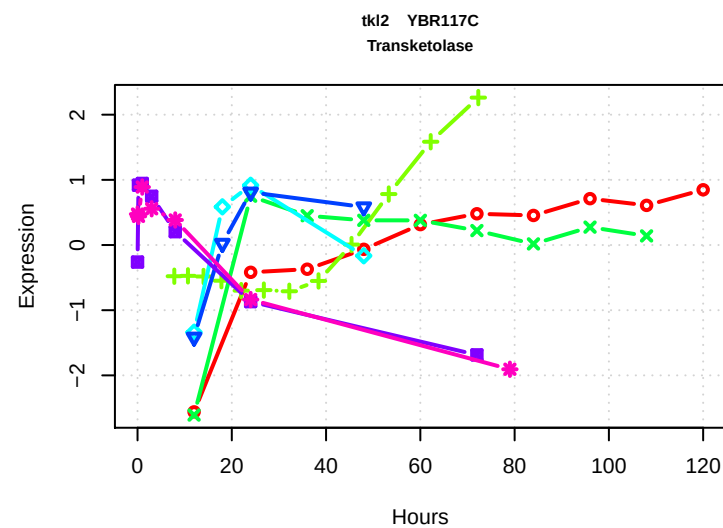
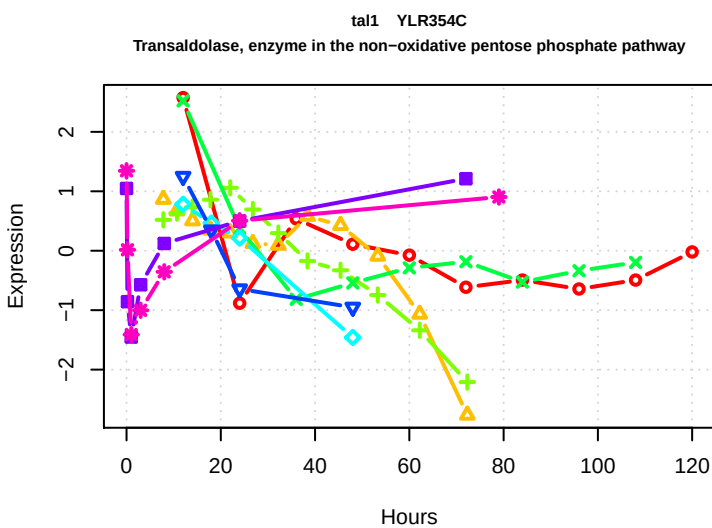
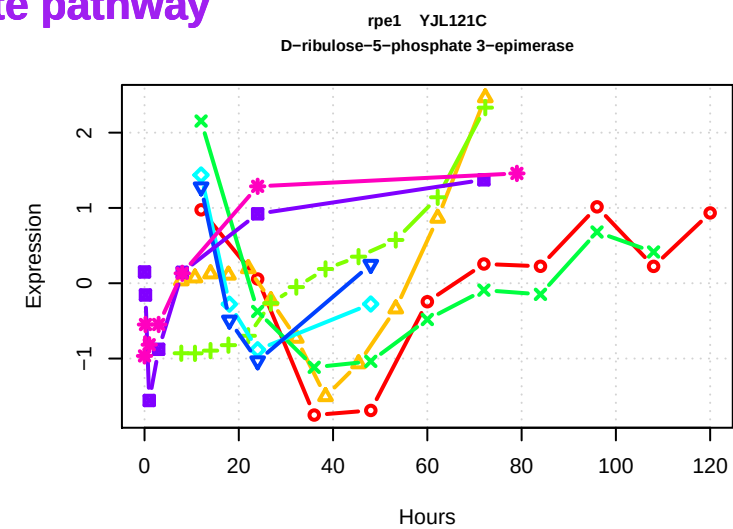
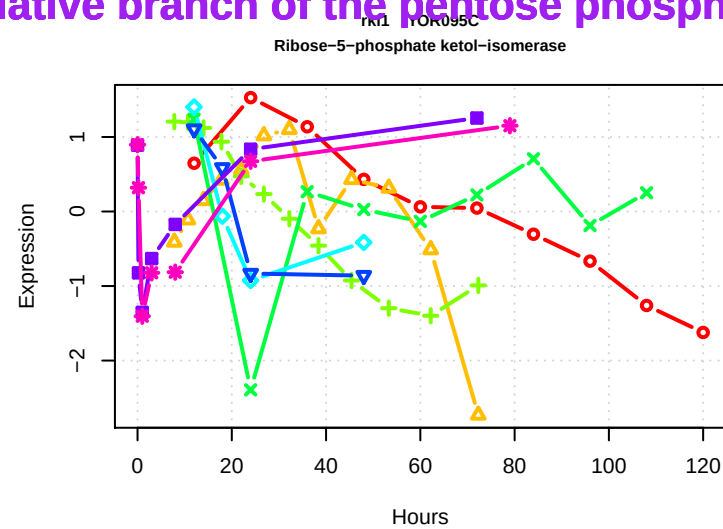
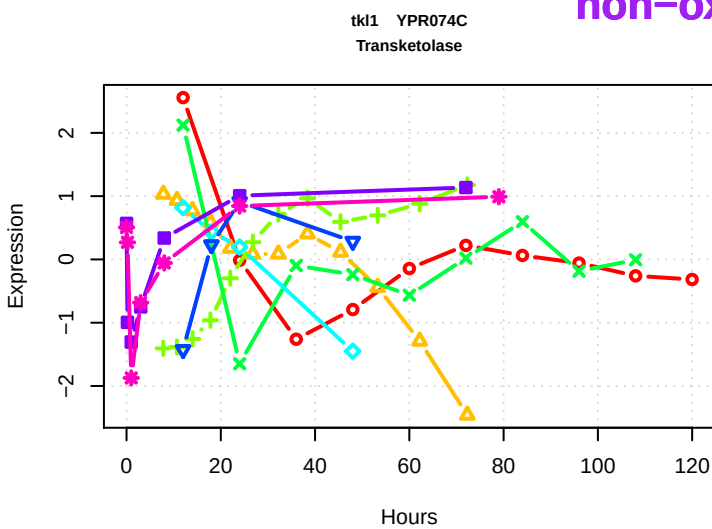
salvage pathways of pyrimidine deoxyribonucleotides

salvage pathways of pyrimidine deoxyribonucleotides



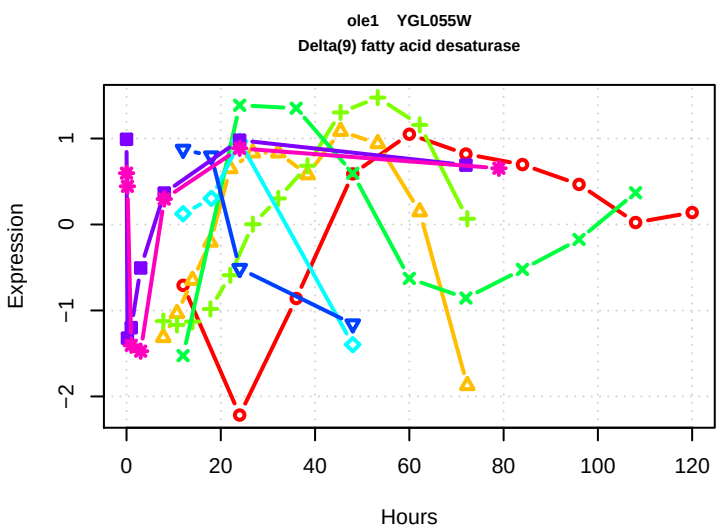
non-oxidative branch of the pentose phosphate pathway

non-oxidative branch of the pentose phosphate pathway



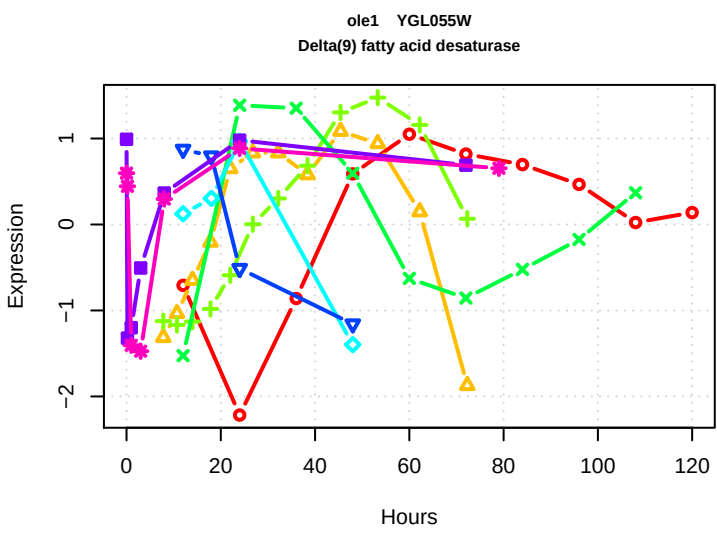
oleate biosynthesis

oleate biosynthesis



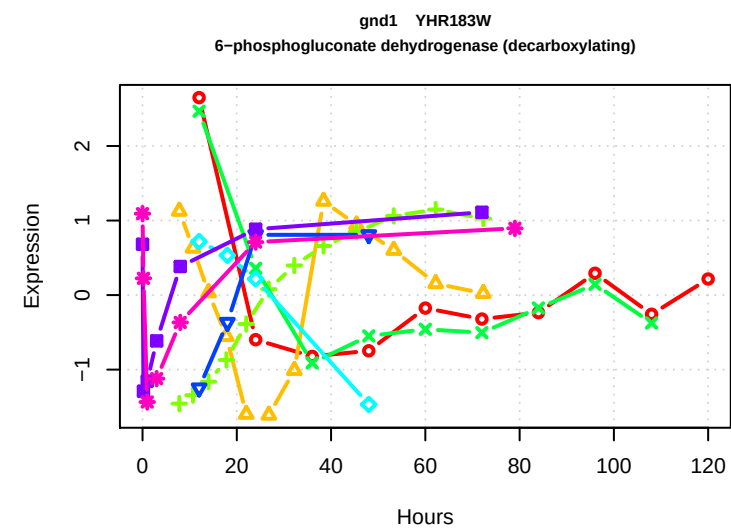
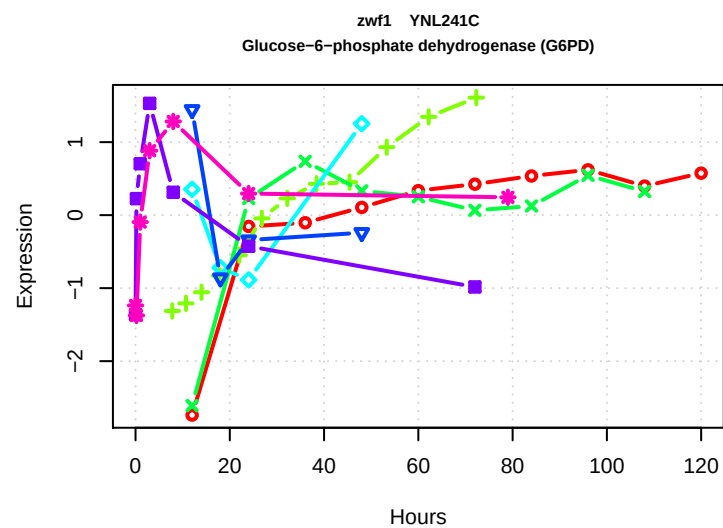
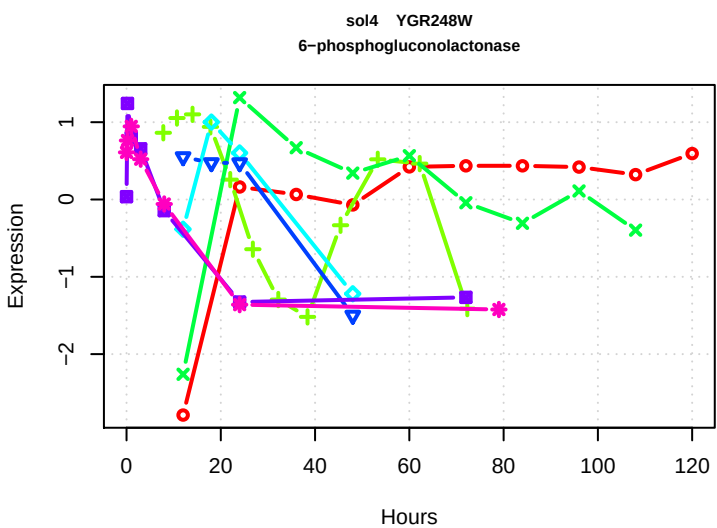
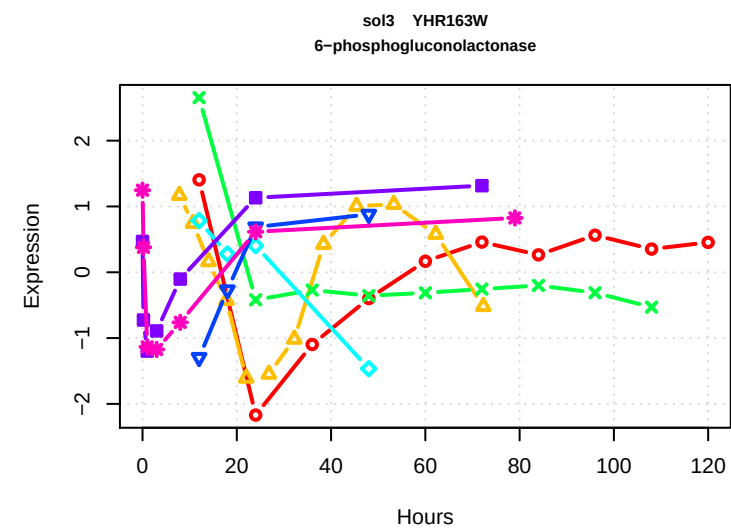
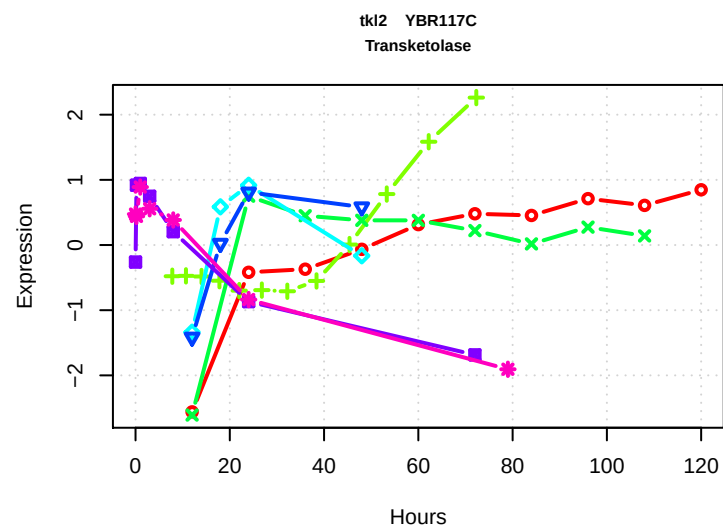
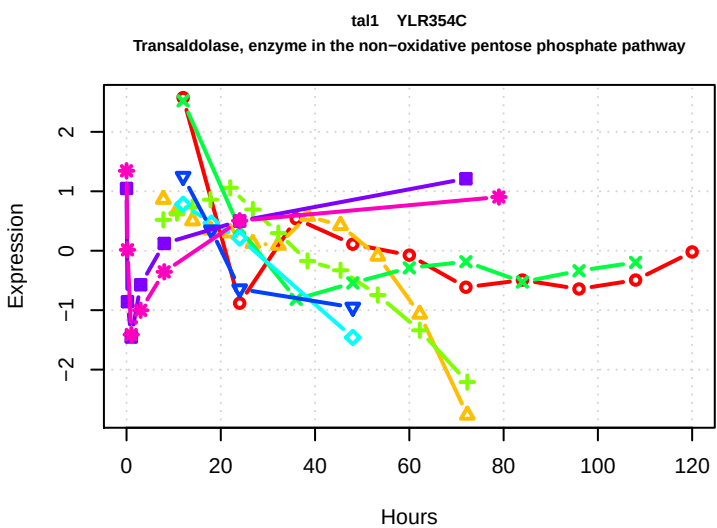
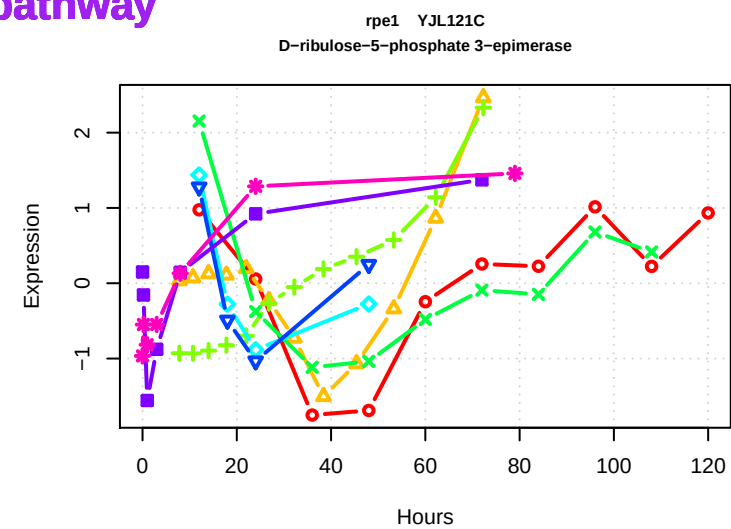
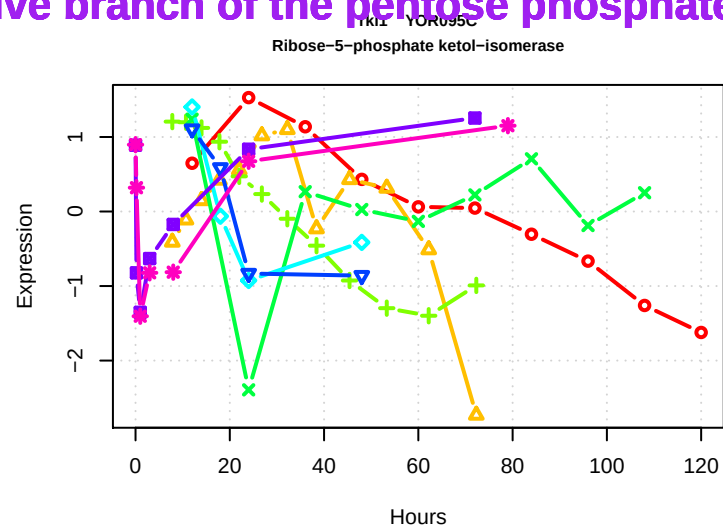
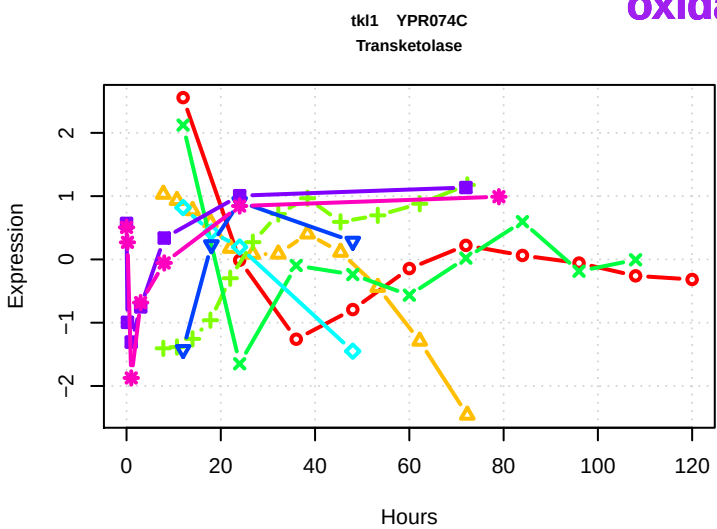
palmitoleate biosynthesis

palmitoleate biosynthesis



oxidative branch of the pentose phosphate pathway

oxidative branch of the pentose phosphate pathway



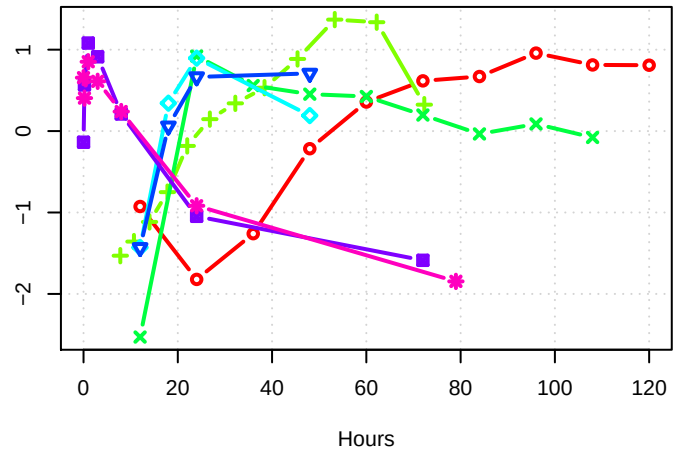
oxidative branch of the pentose phosphate pathway

Expression

gnd2 YGR256W

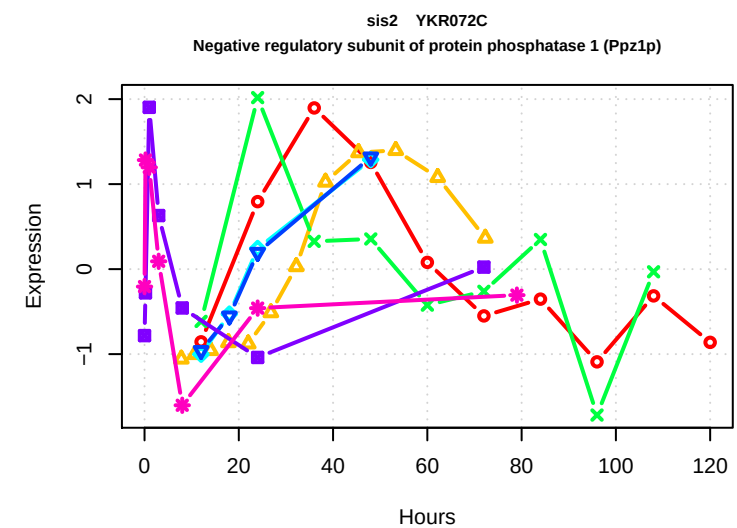
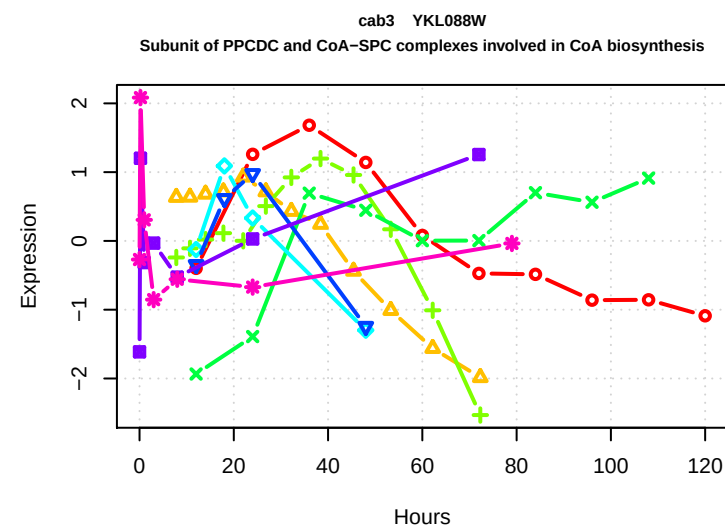
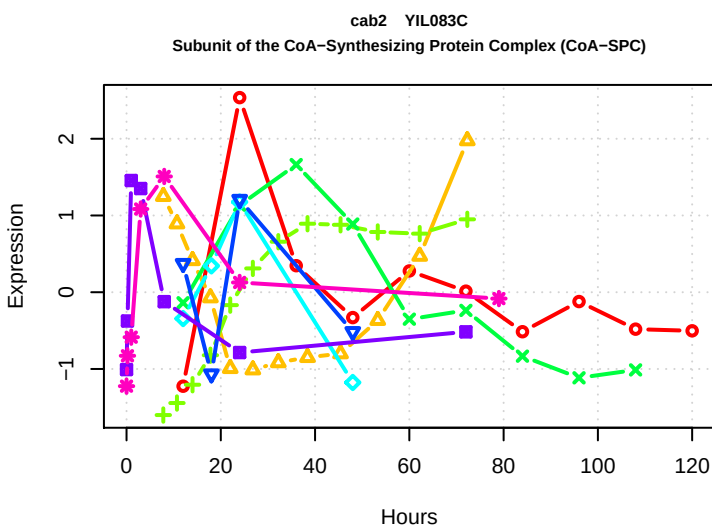
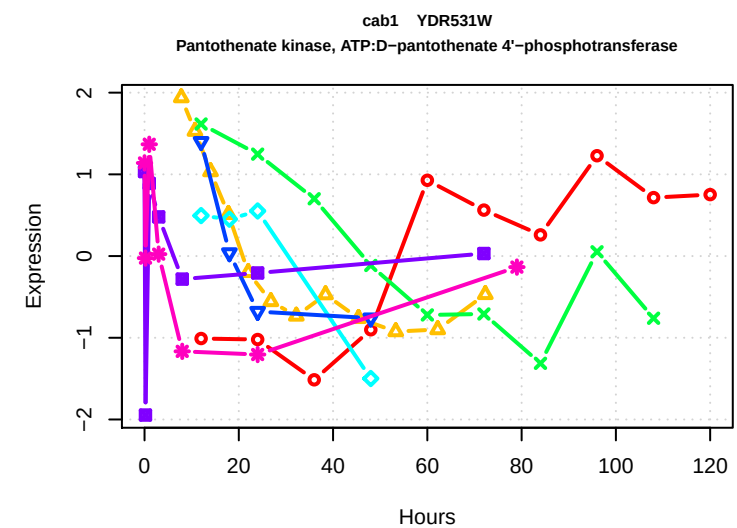
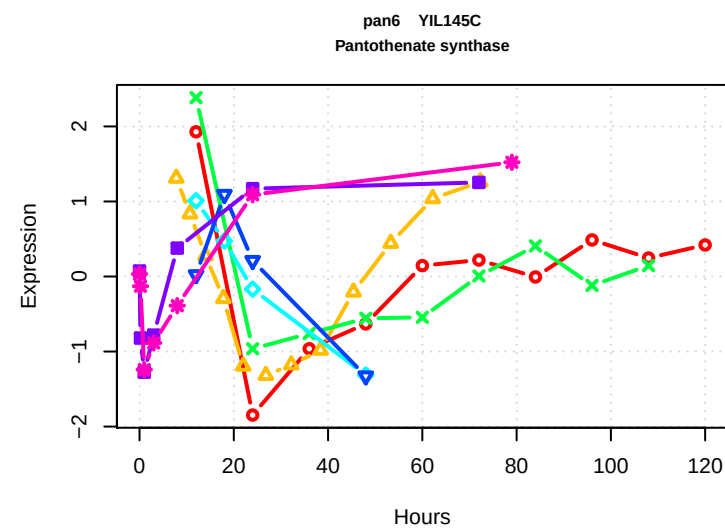
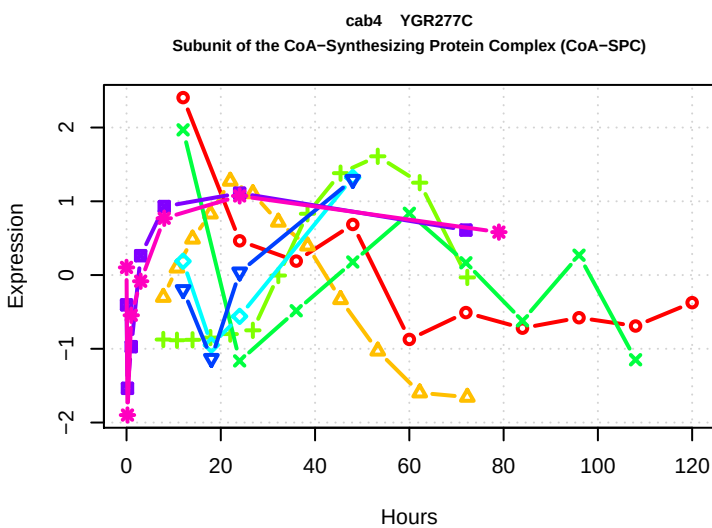
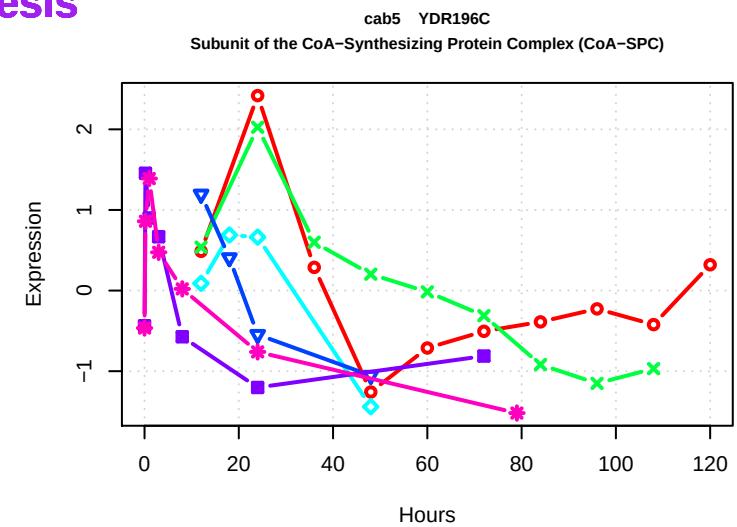
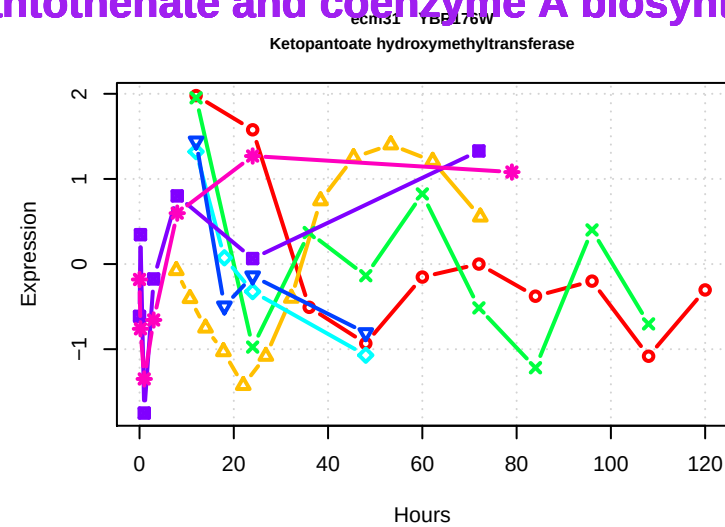
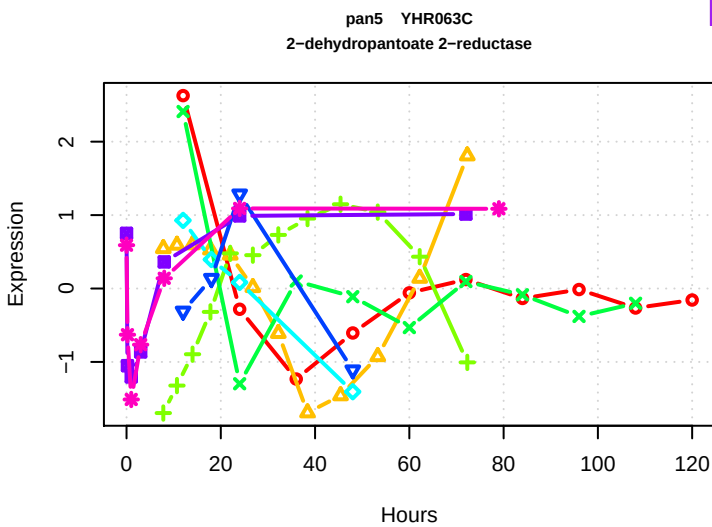
6-phosphogluconate dehydrogenase (decarboxylating)

Hours

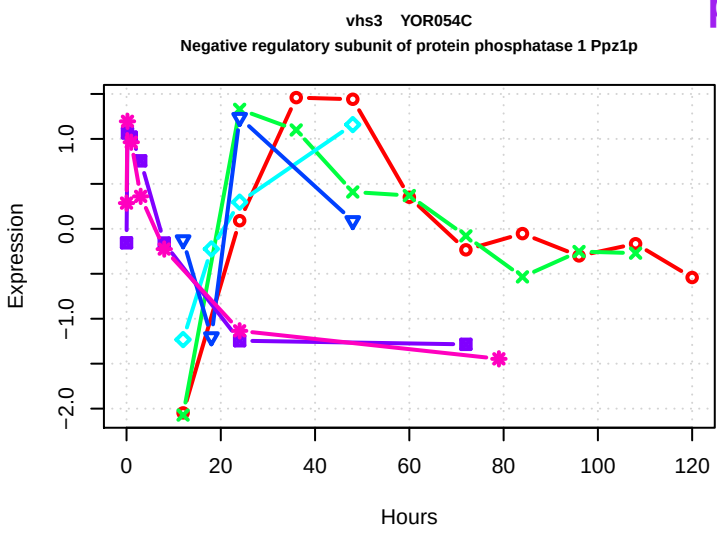


pantothenate and coenzyme A biosynthesis

panthothenate and coenzyme A biosynthesis

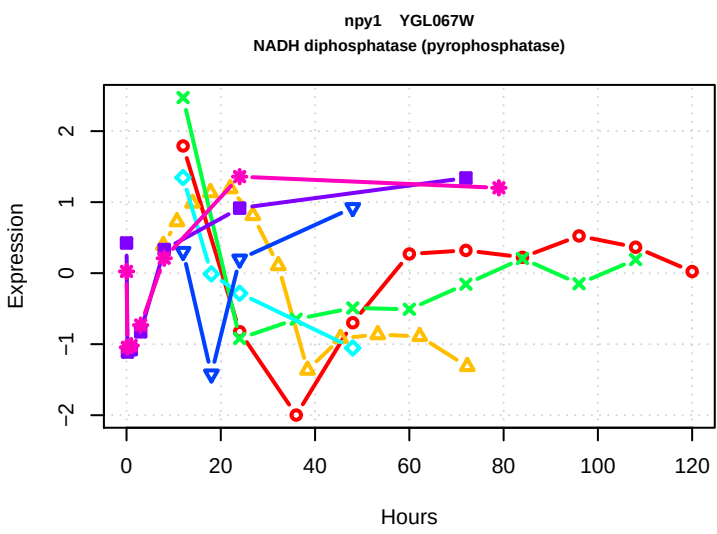


pantothenate and coenzyme A biosynthesis



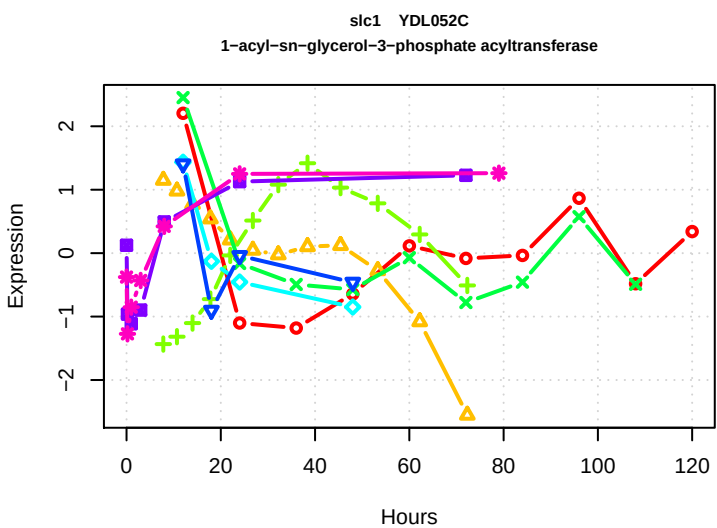
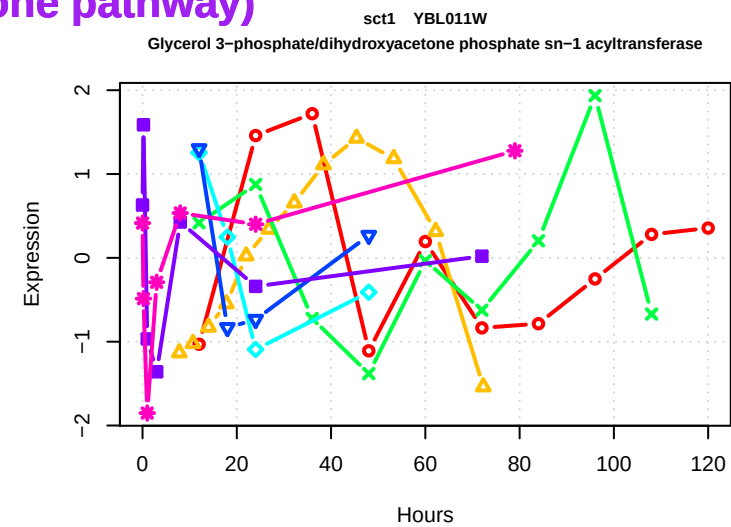
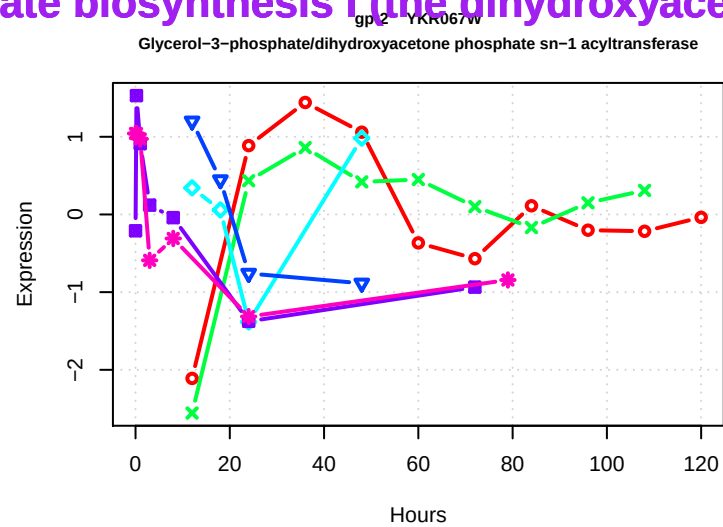
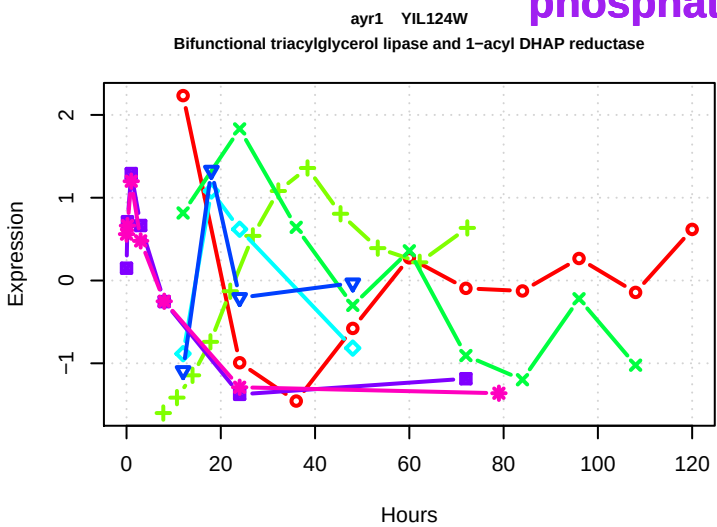
periplasmic NAD degradation

periplasmic NAD degradation



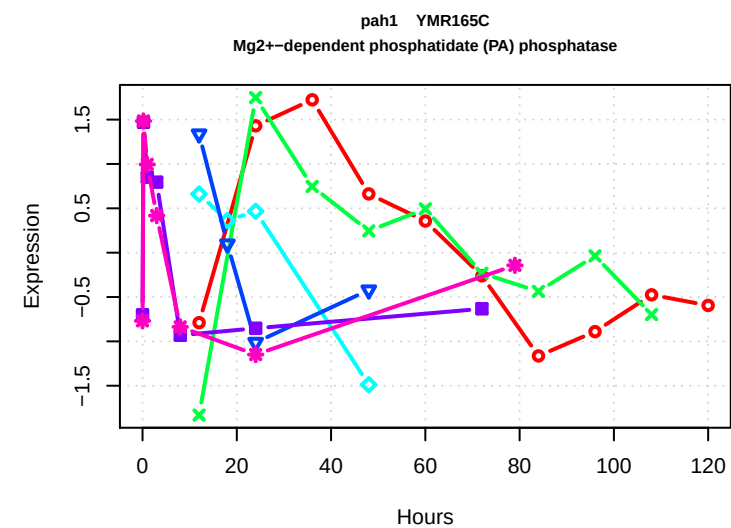
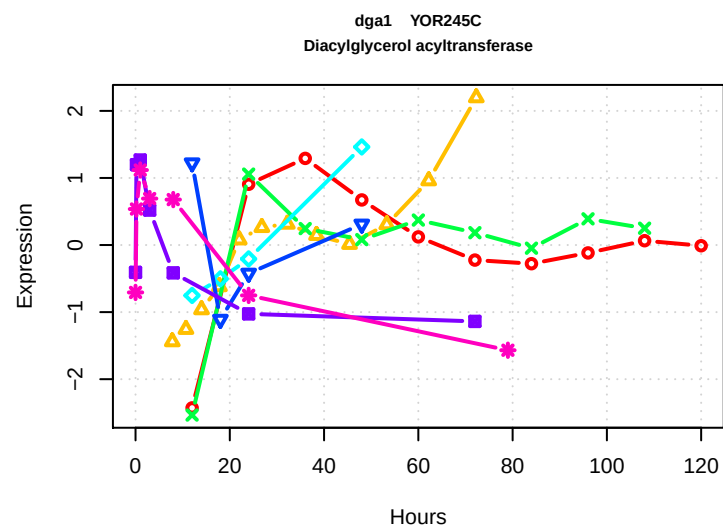
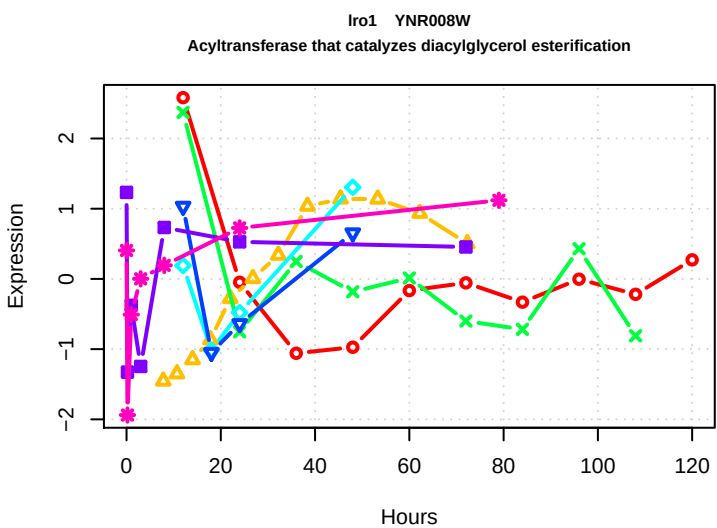
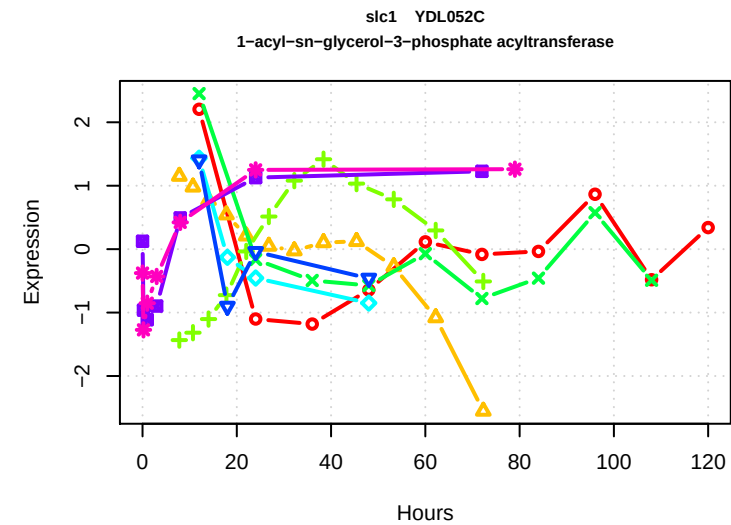
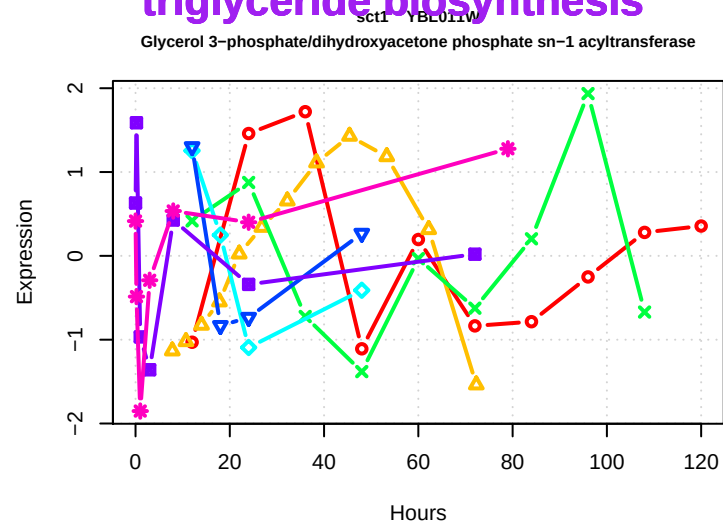
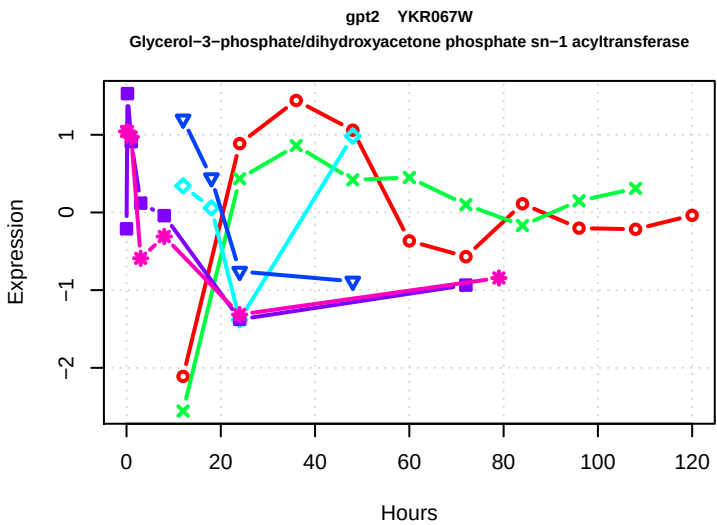
phosphatidate biosynthesis I (the dihydroxyacetone pathway)

phosphatidate biosynthesis I (the dihydroxyacetone pathway)



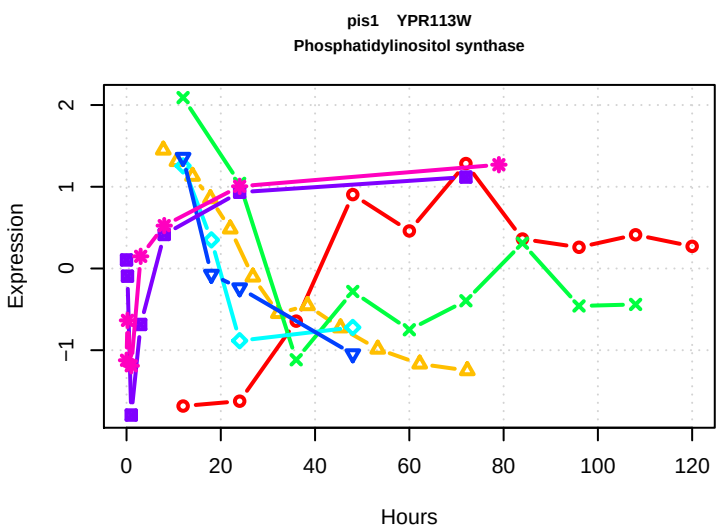
triglyceride biosynthesis

triglyceride biosynthesis



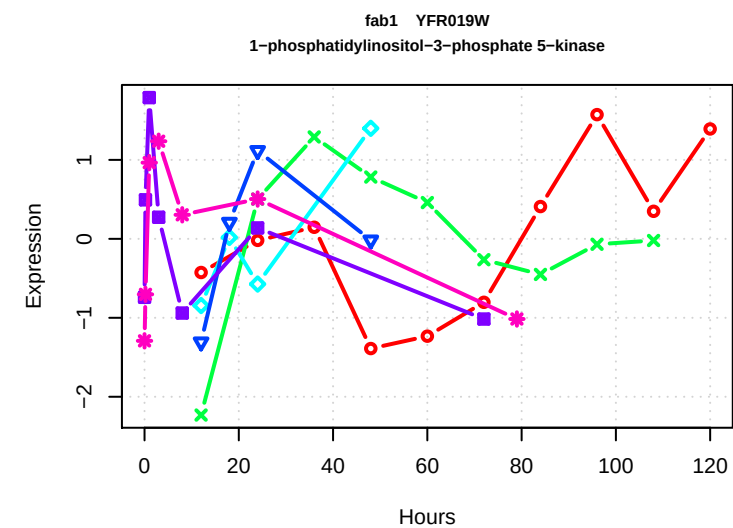
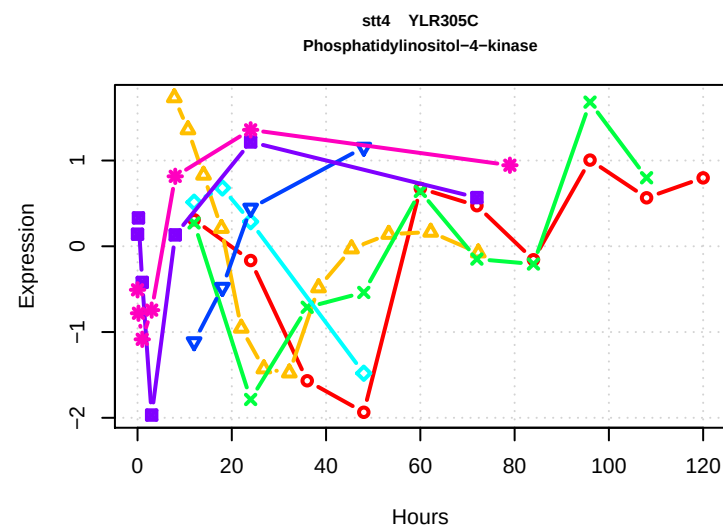
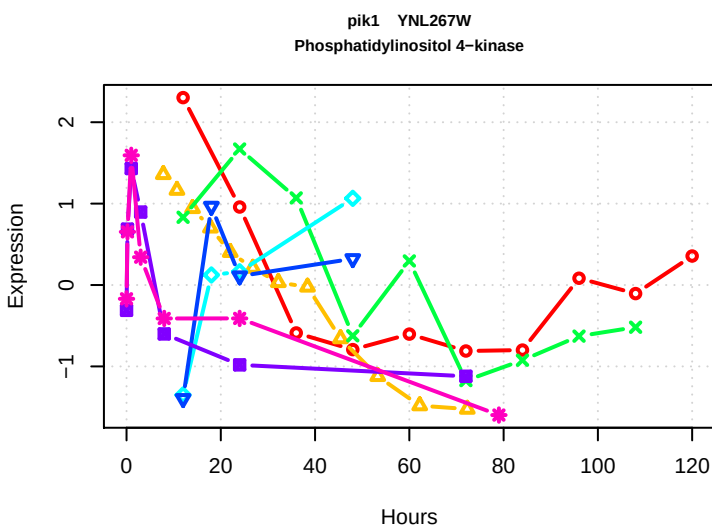
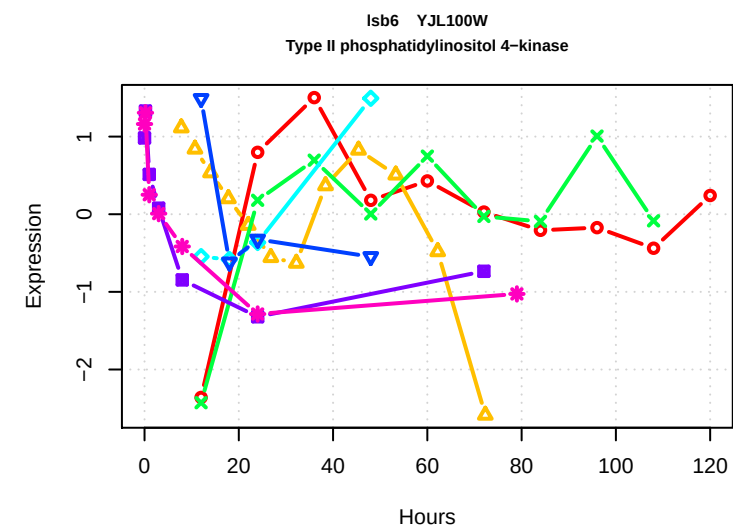
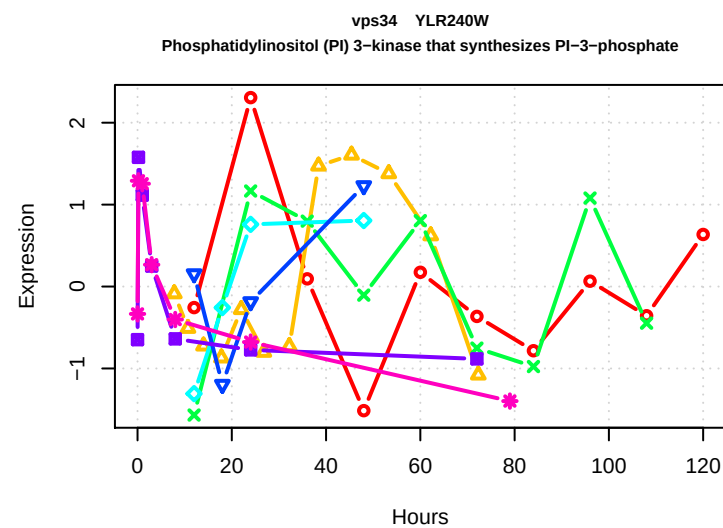
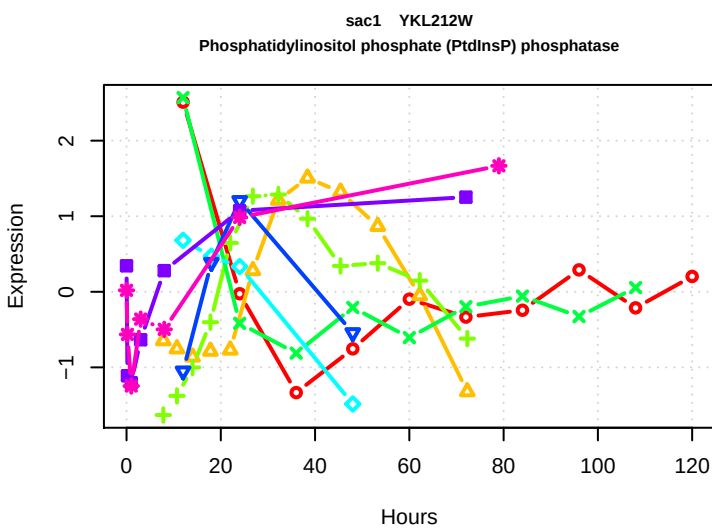
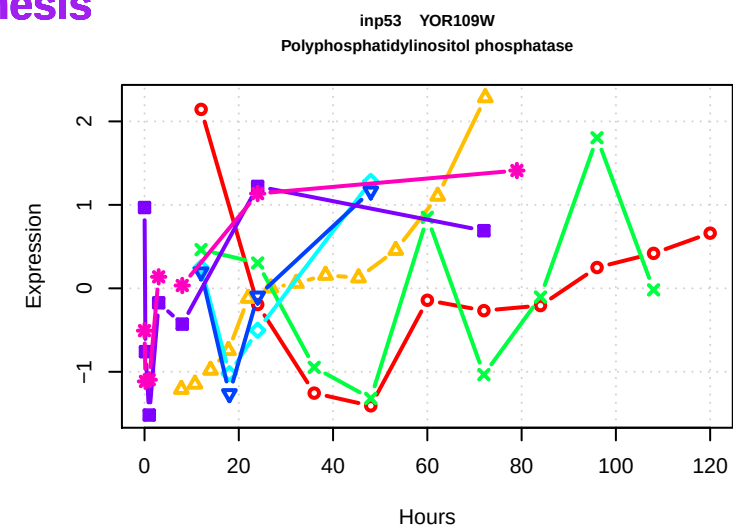
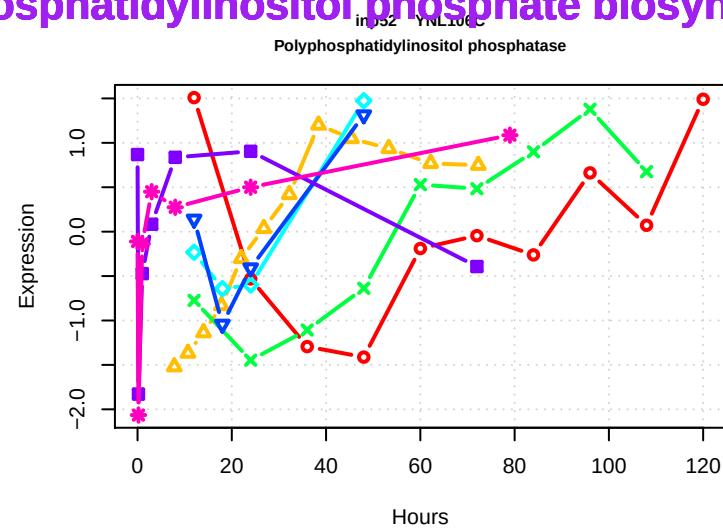
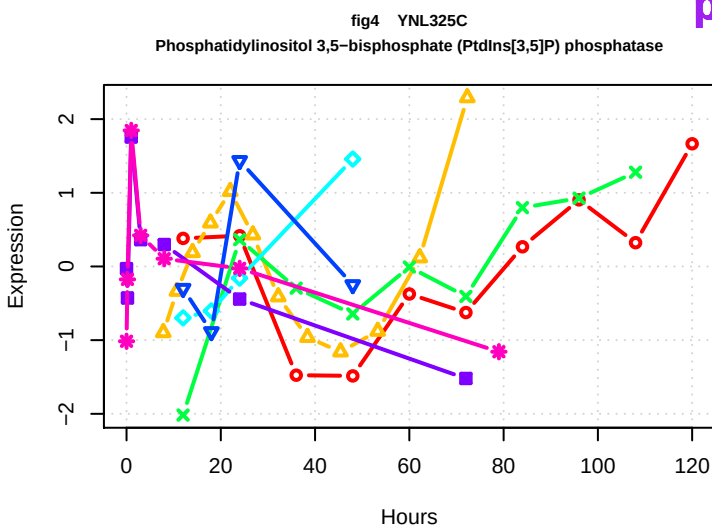
phosphatidylinositol biosynthesis

phosphatidylinositol biosynthesis

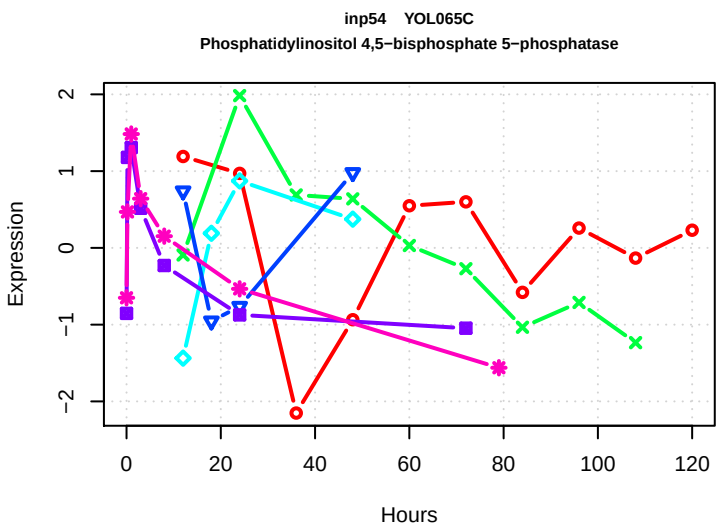
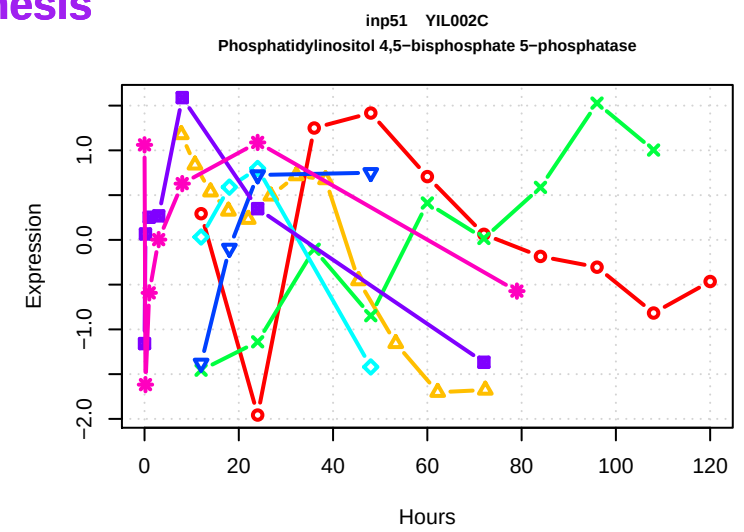
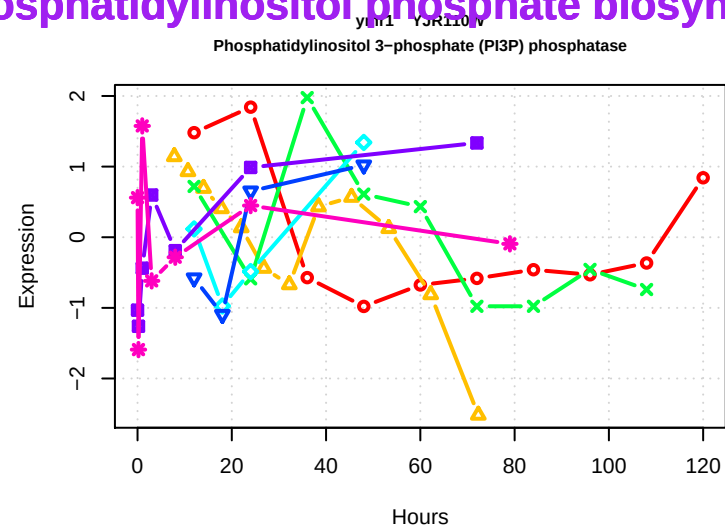
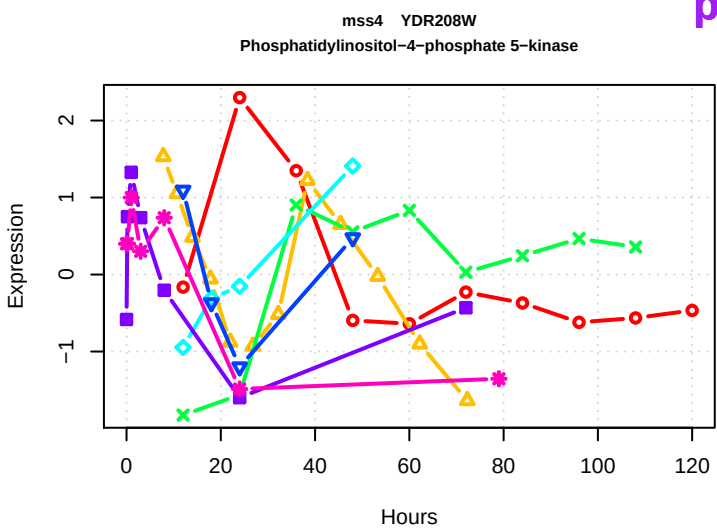


phosphatidylinositol phosphate biosynthesis

phosphatidylinositol phosphate biosynthesis

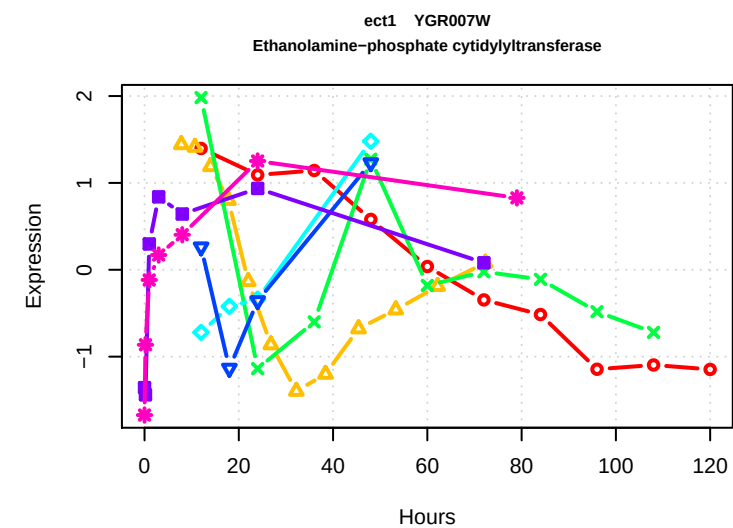
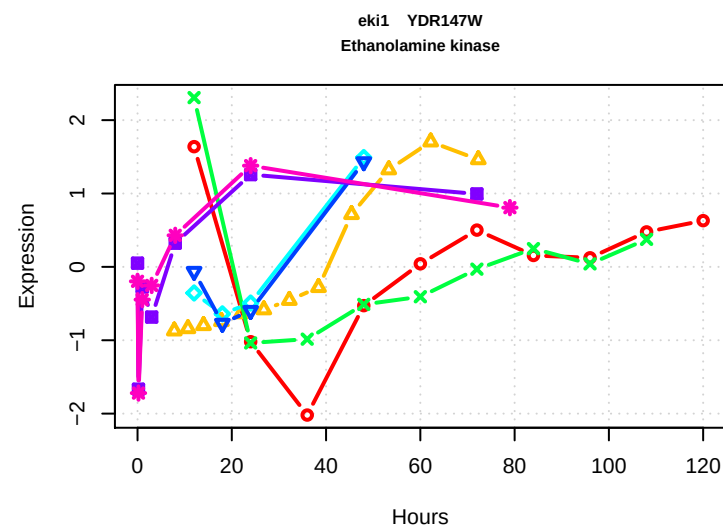
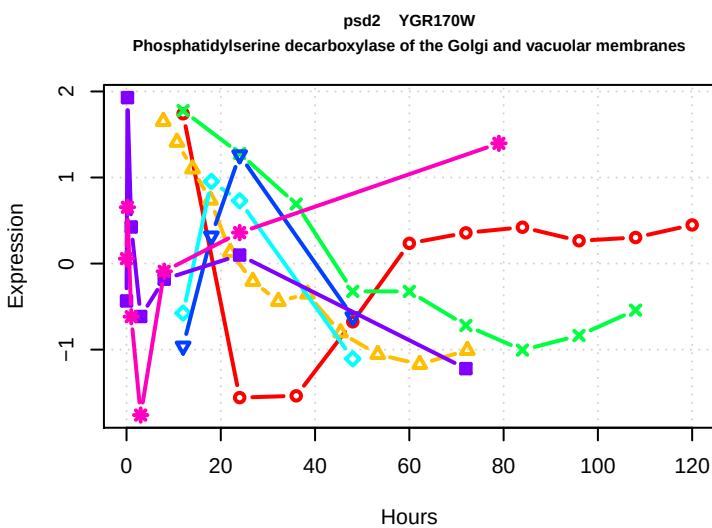
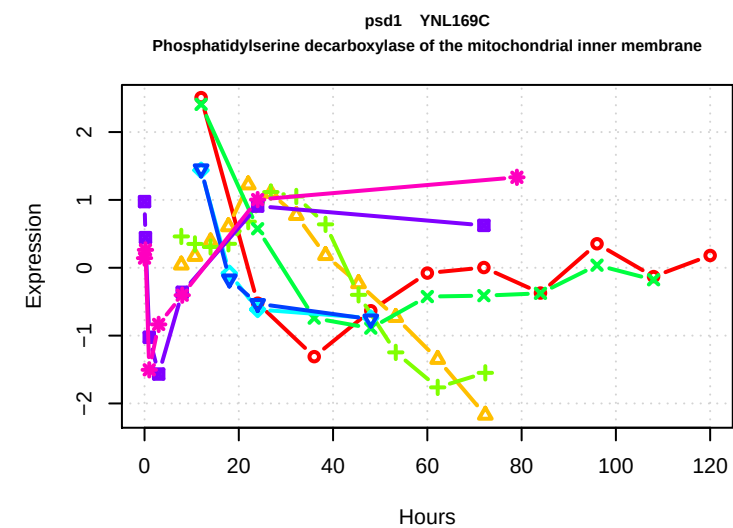
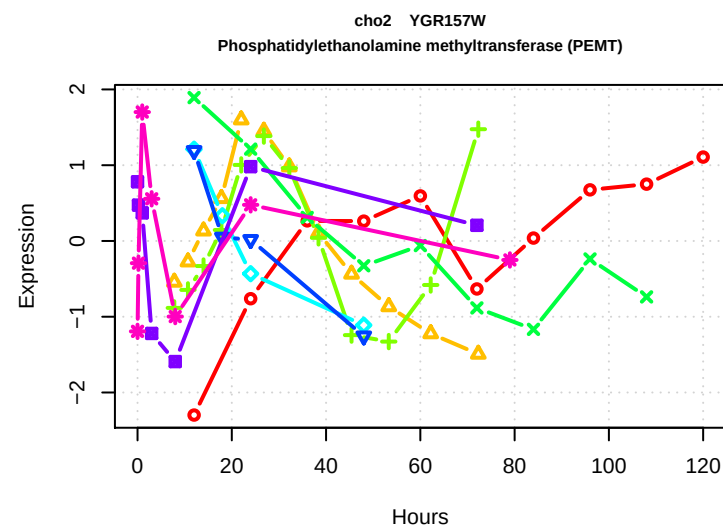
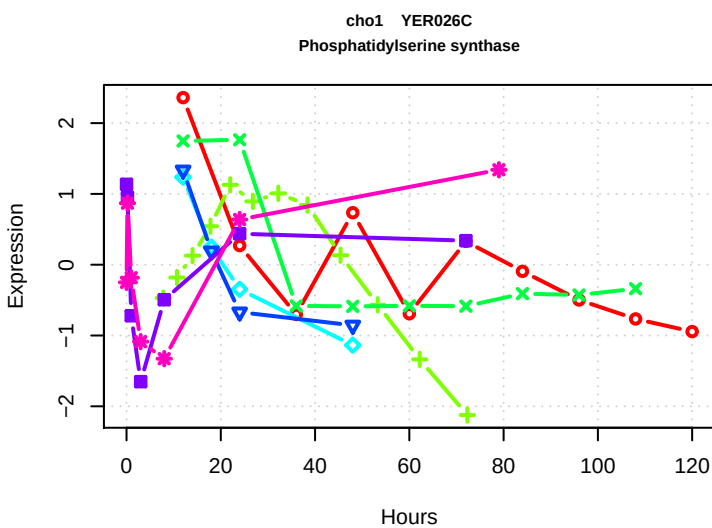
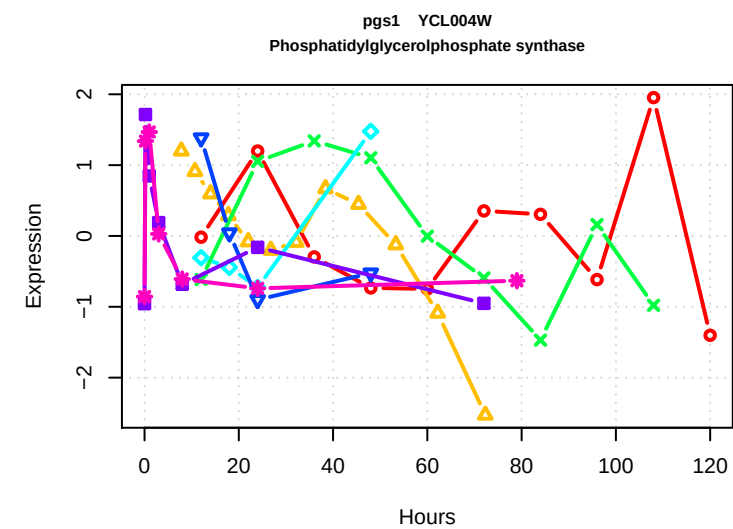
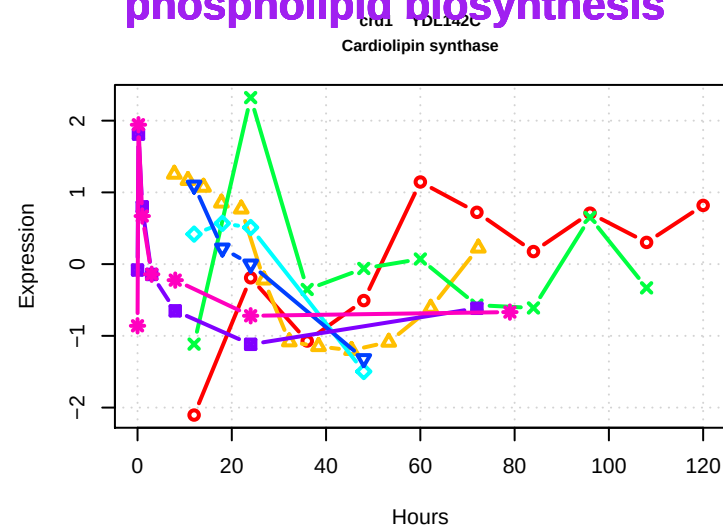
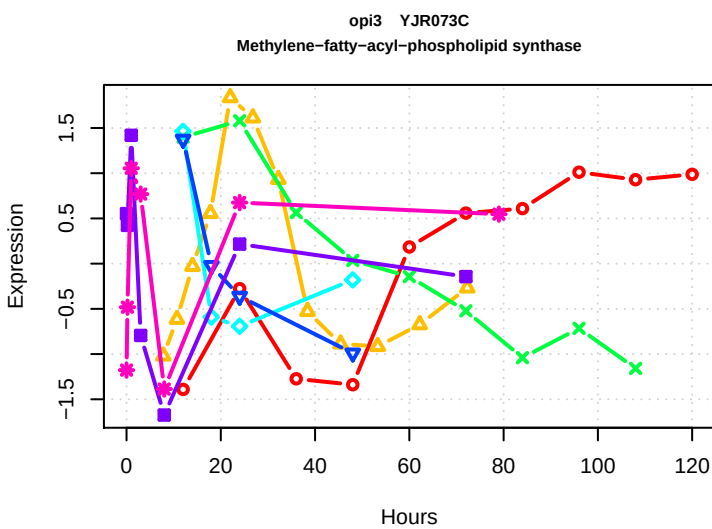


phosphatidylinositol phosphate biosynthesis

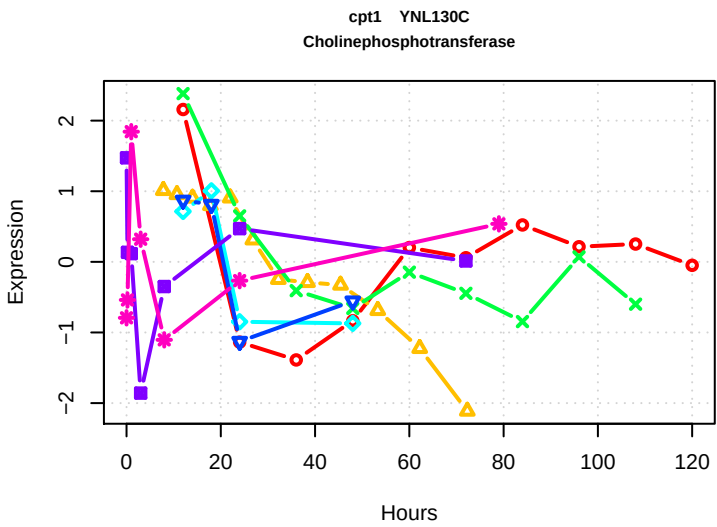
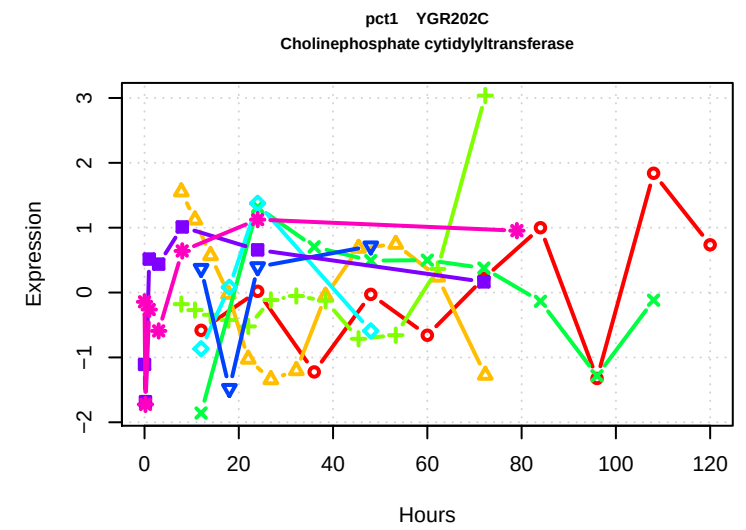
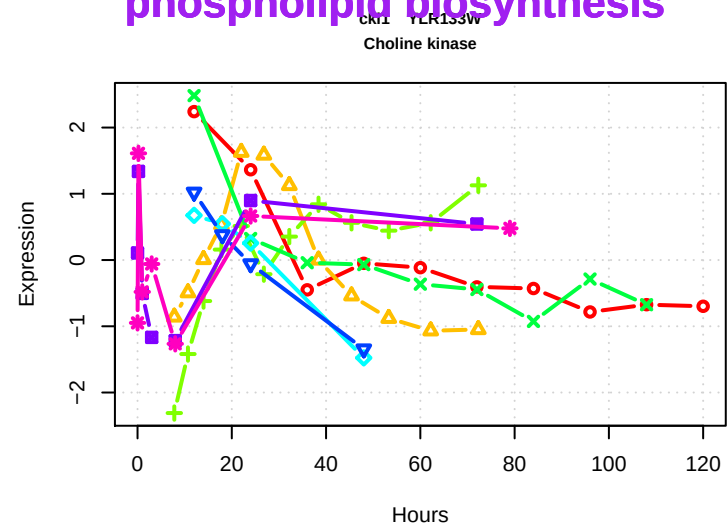
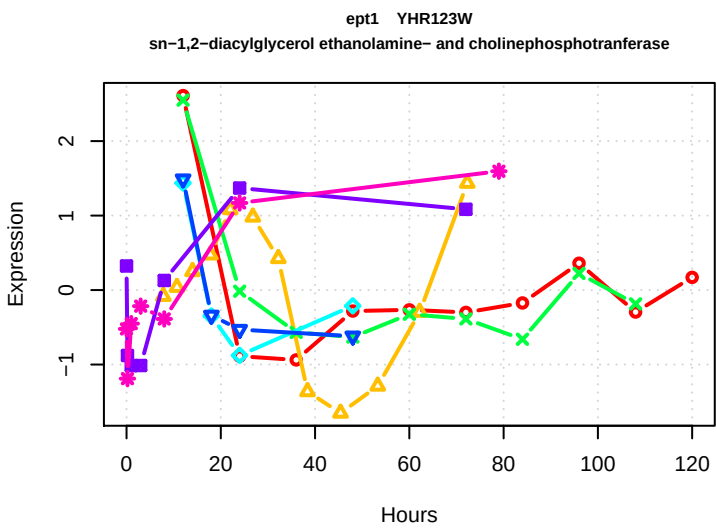


phospholipid biosynthesis

phospholipid biosynthesis

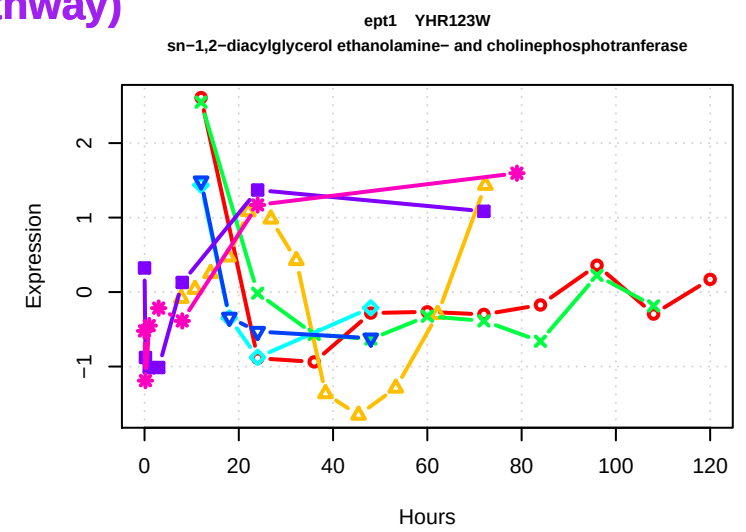
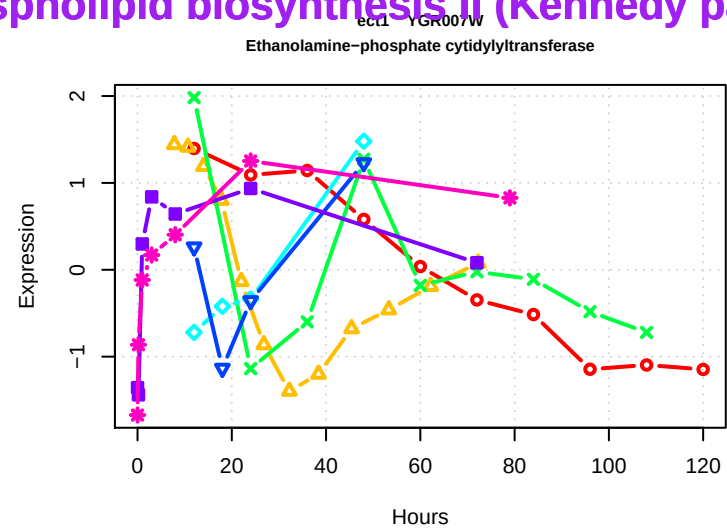
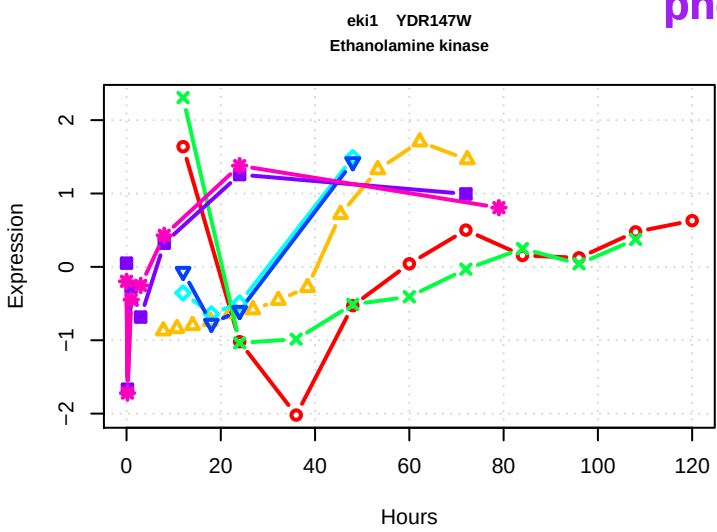


phospholipid biosynthesis



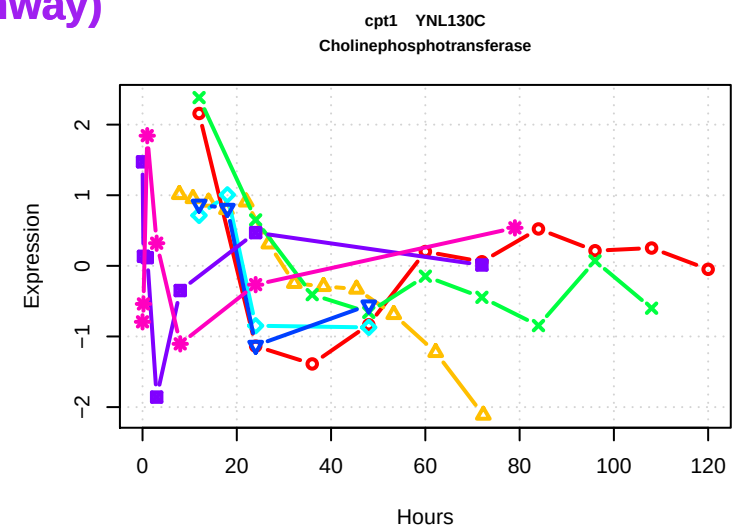
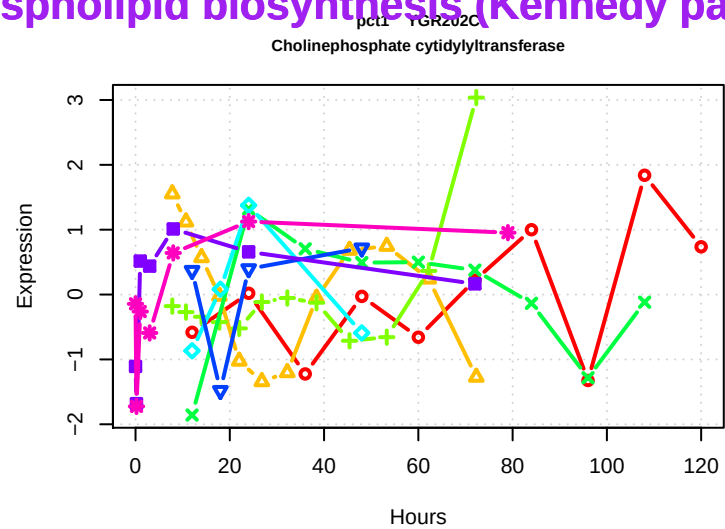
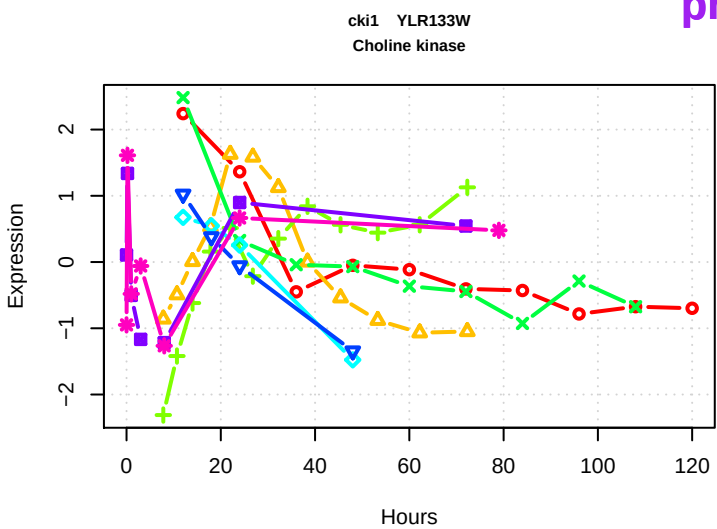
phospholipid biosynthesis II (Kennedy pathway)

phospholipid biosynthesis II (Kennedy pathway)

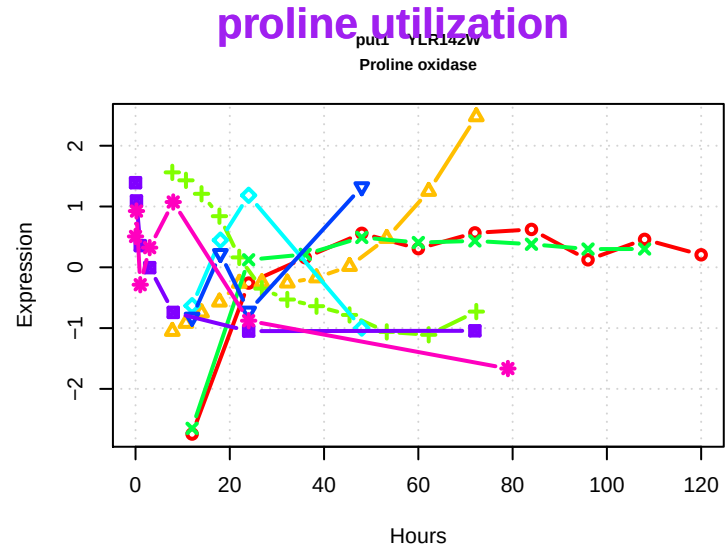
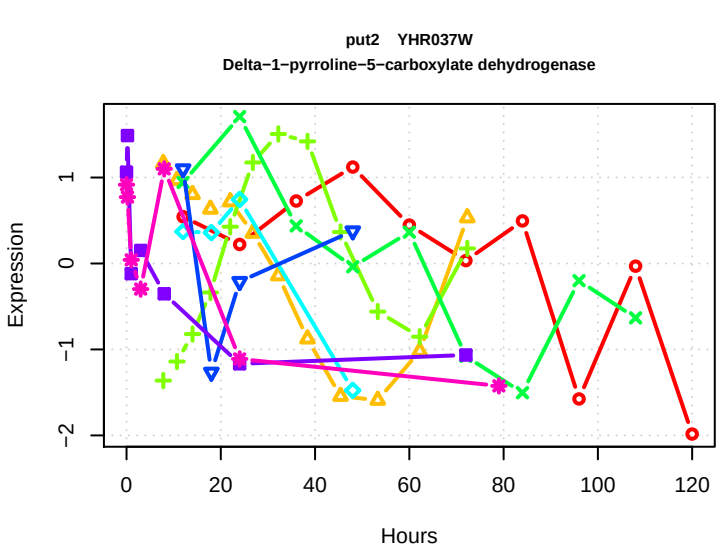


phospholipid biosynthesis (Kennedy pathway)

phospholipid biosynthesis (Kennedy pathway)

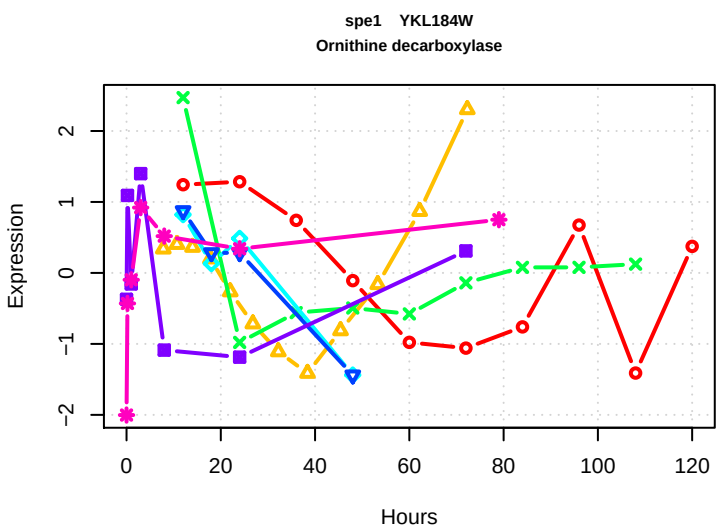


proline utilization



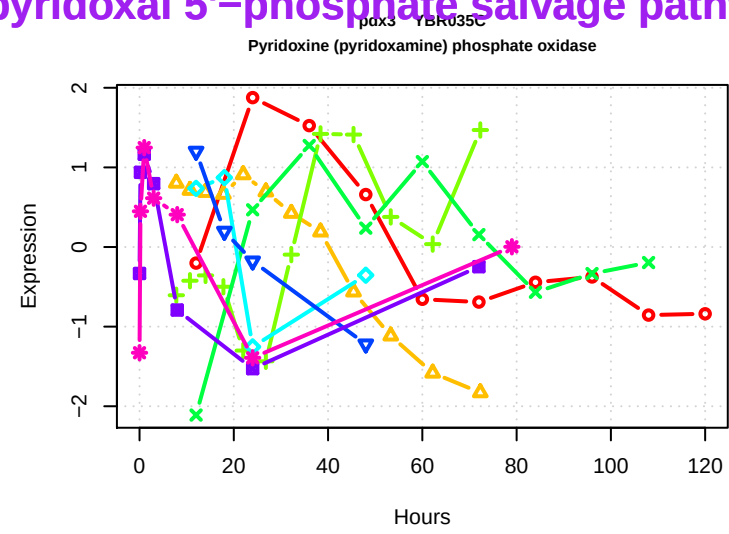
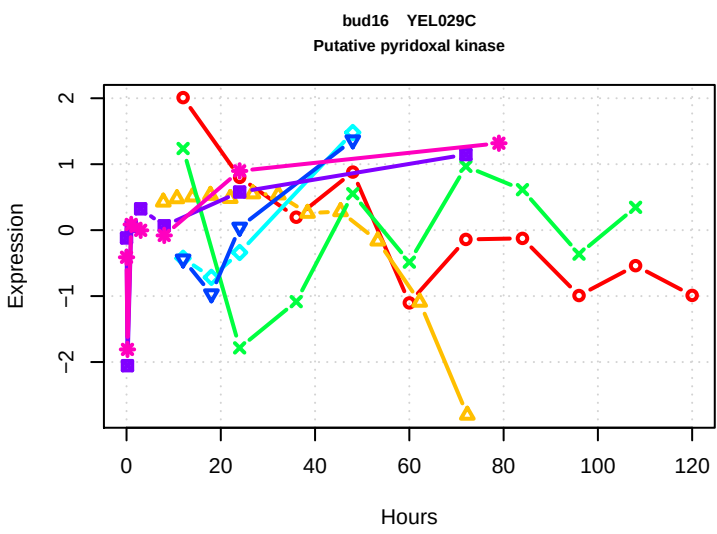
putrescine biosynthesis

putrescine biosynthesis



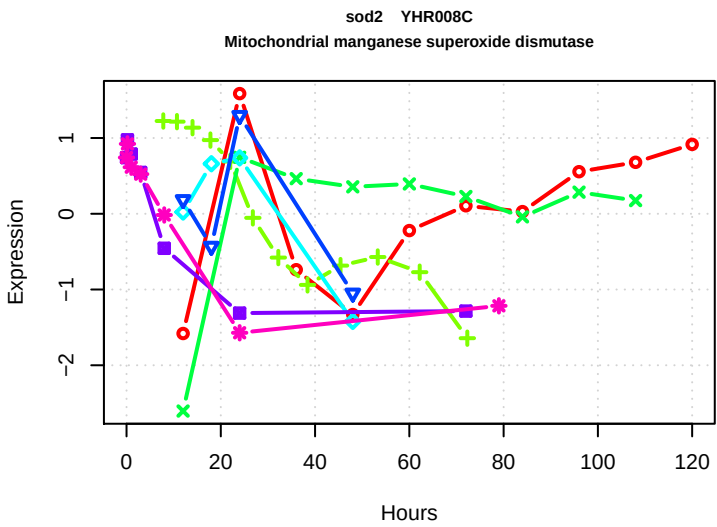
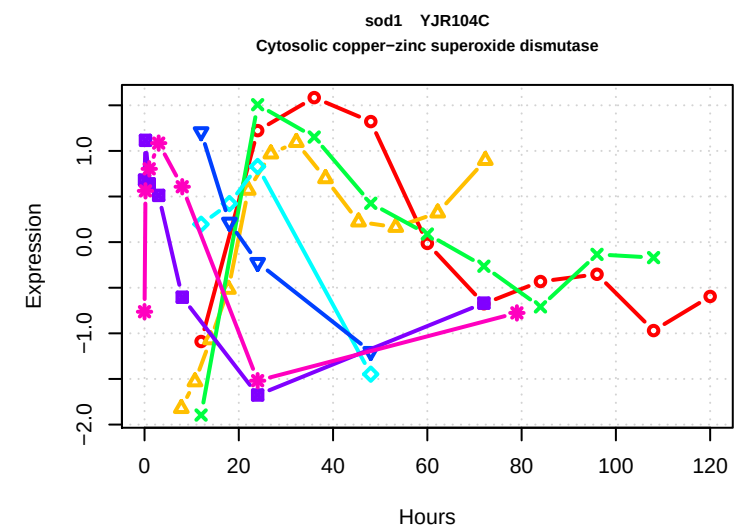
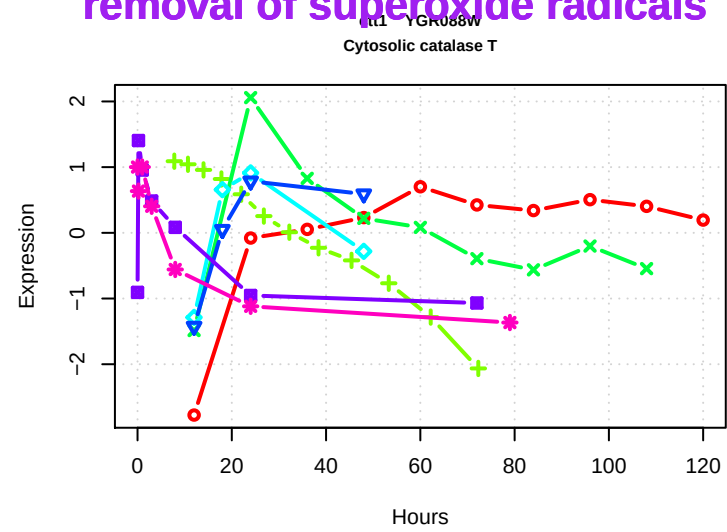
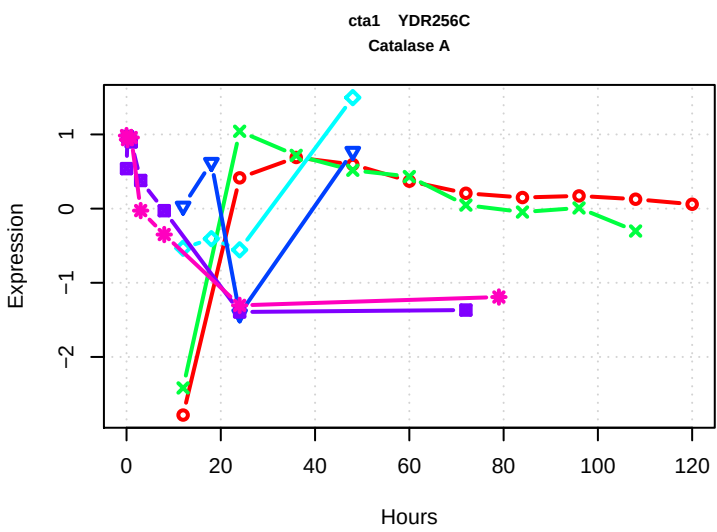
pyridoxal 5'-phosphate salvage pathway

pyridoxal 5'-phosphate salvage pathway



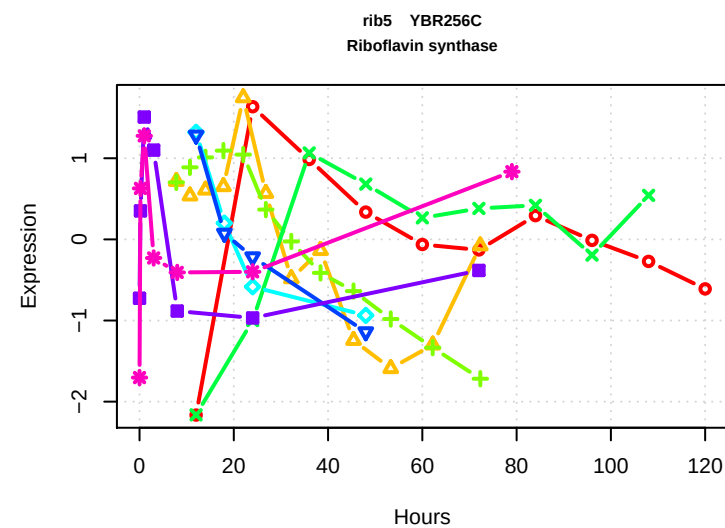
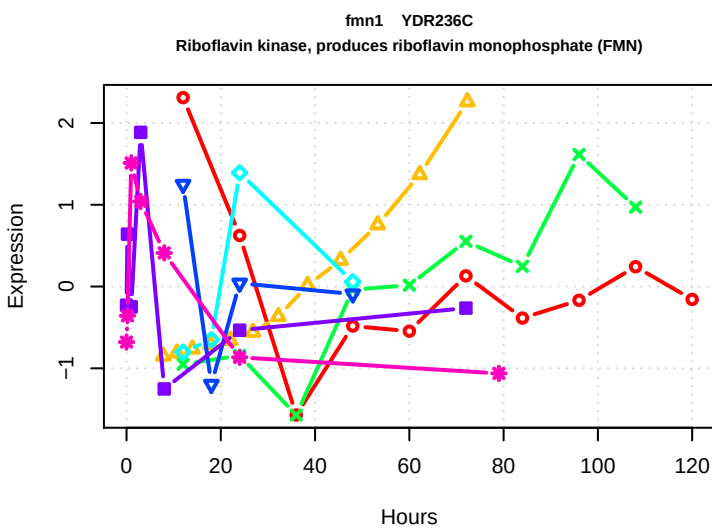
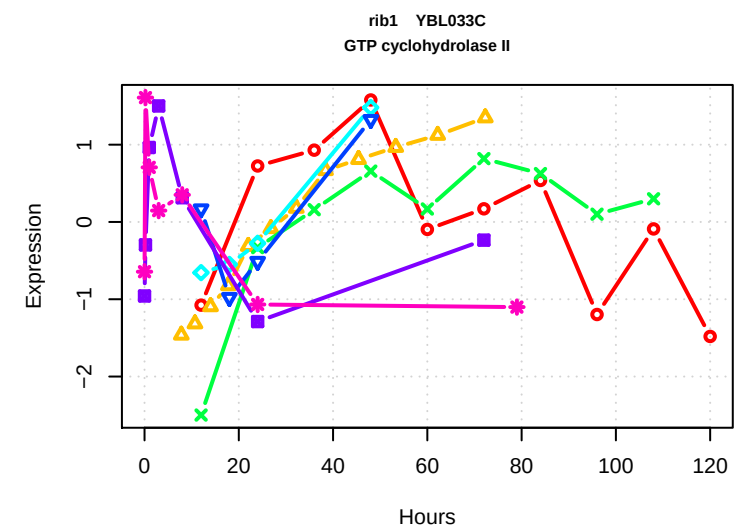
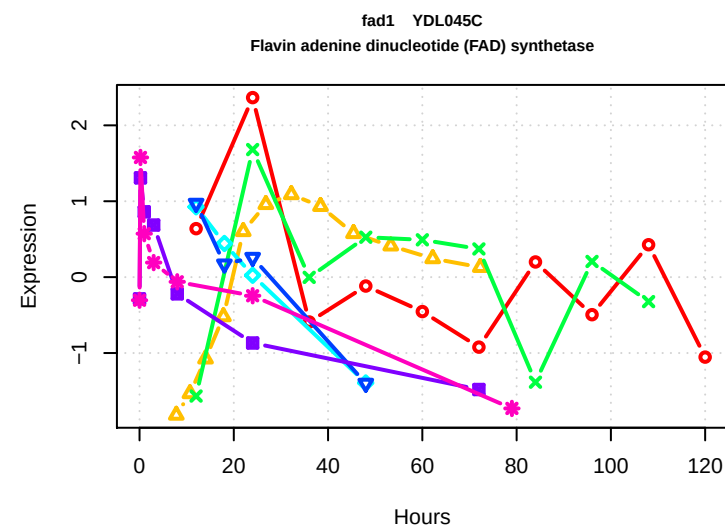
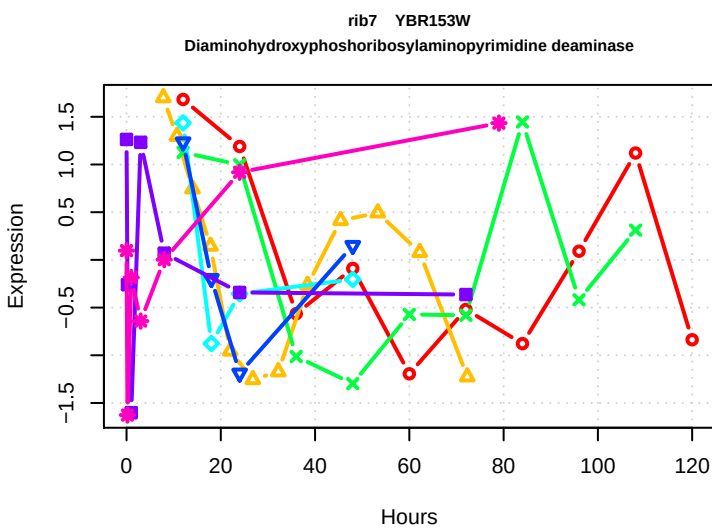
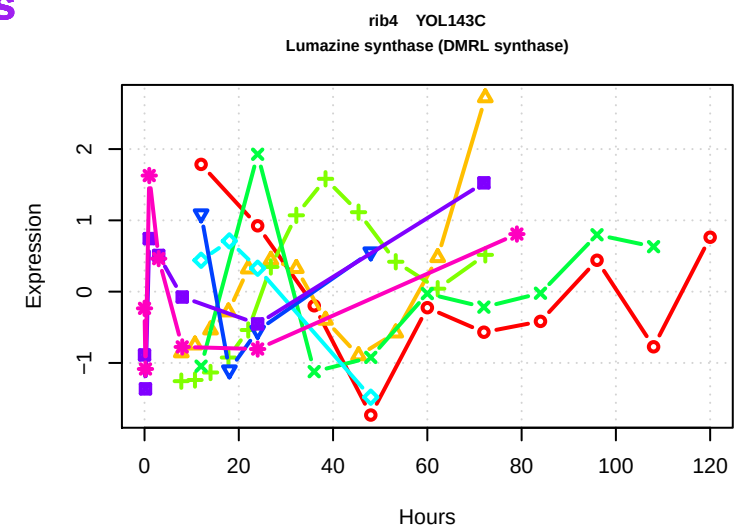
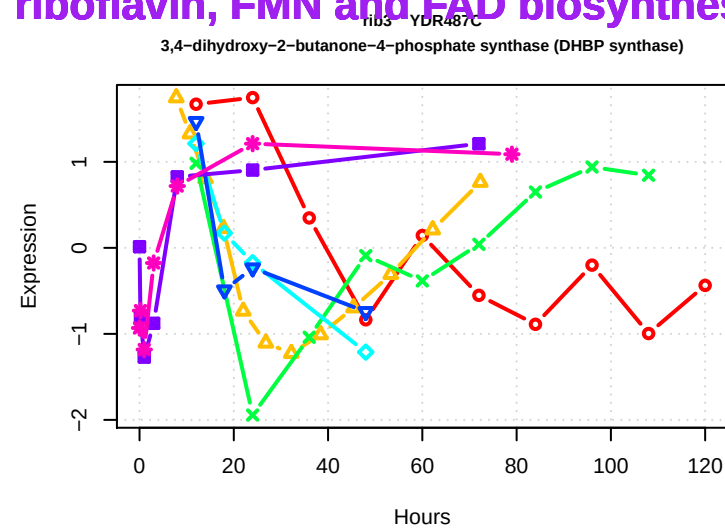
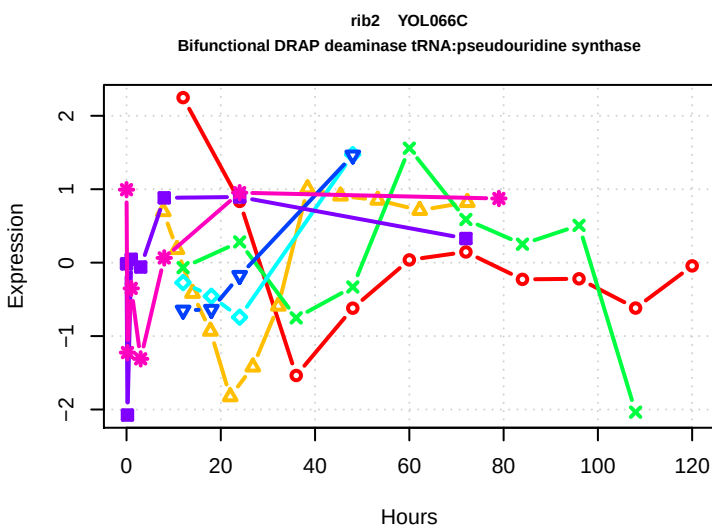
removal of superoxide radicals

removal of superoxide radicals



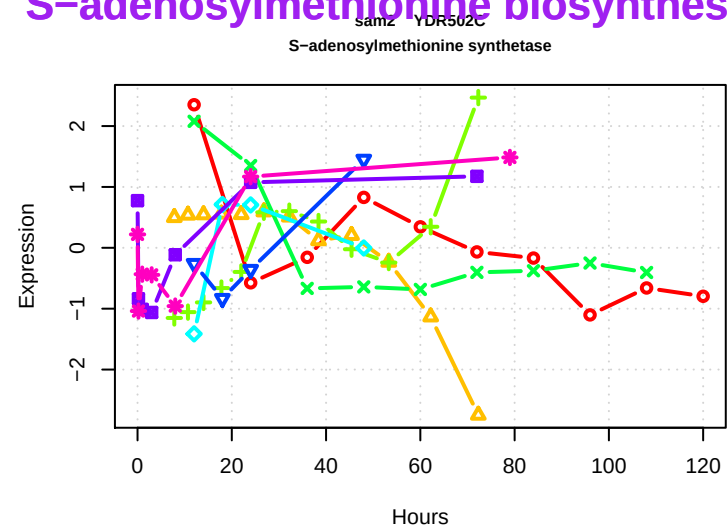
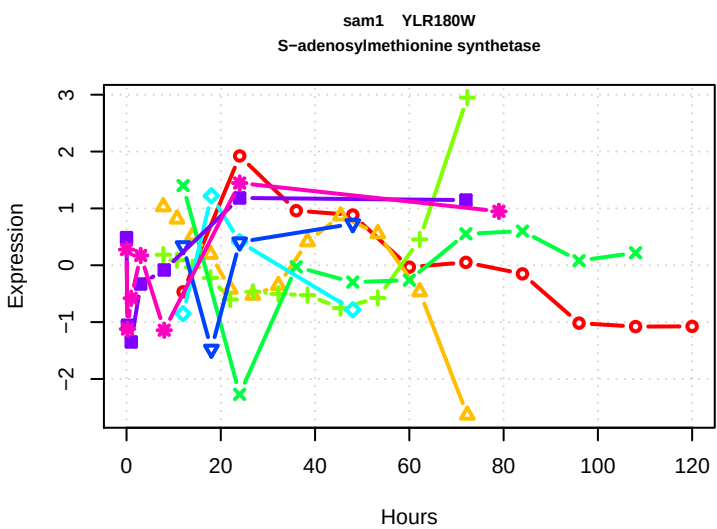
riboflavin, FMN and FAD biosynthesis

riboflavin, FMN and FAD biosynthesis



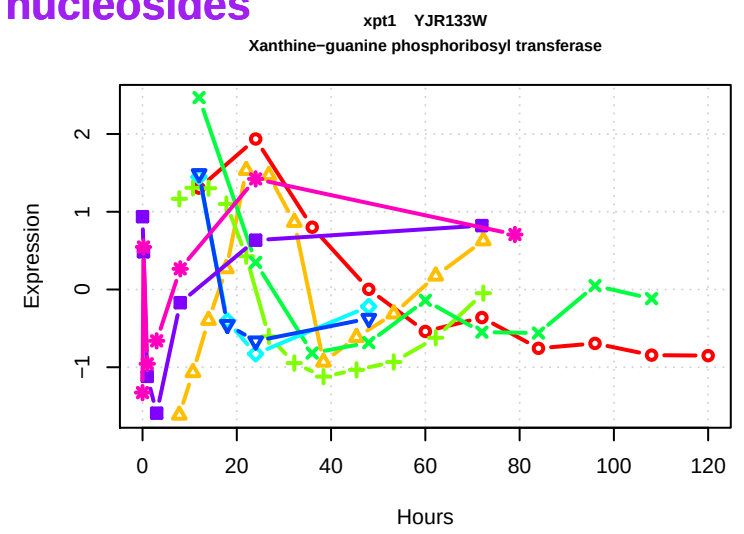
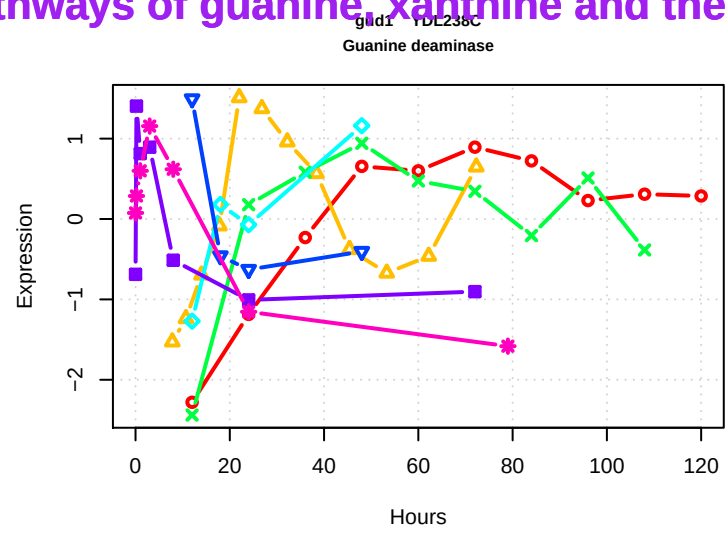
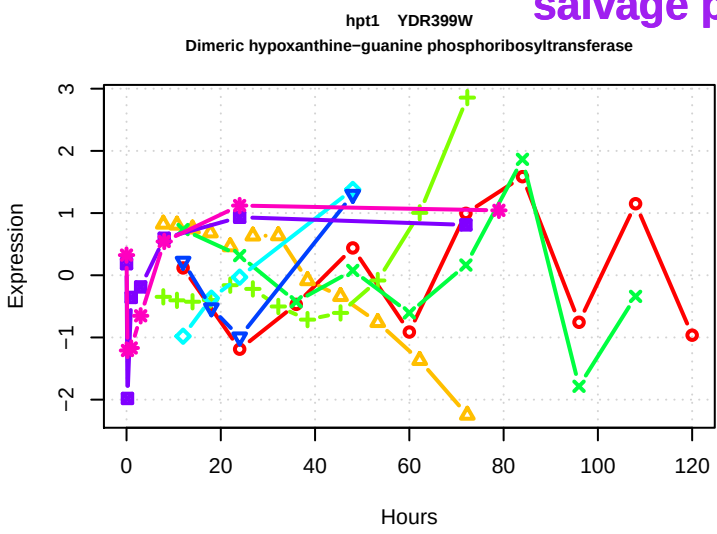
S-adenosylmethionine biosynthesis

S-adenosylmethionine biosynthesis



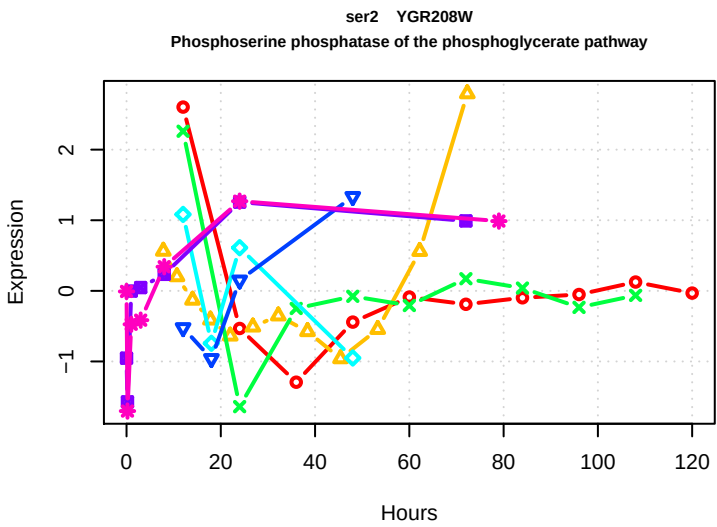
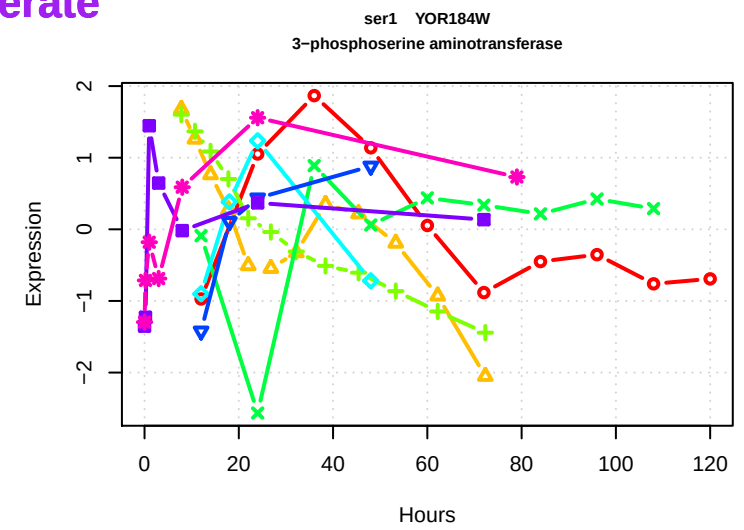
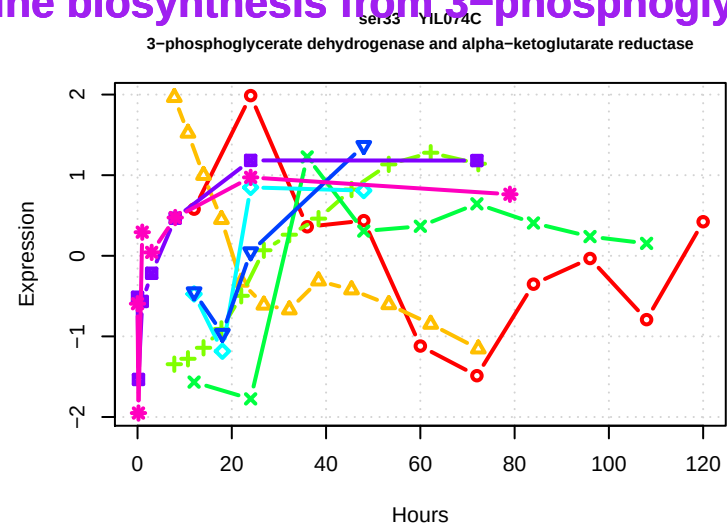
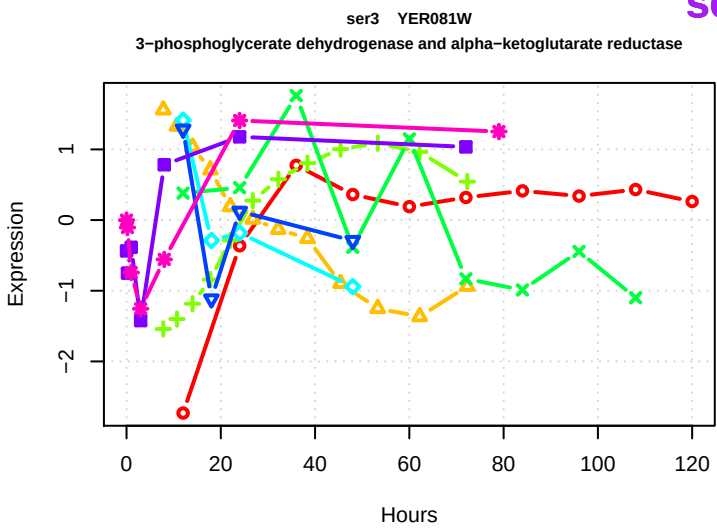
salvage pathways of guanine, xanthine and their nucleosides

salvage pathways of guanine, xanthine and their nucleosides



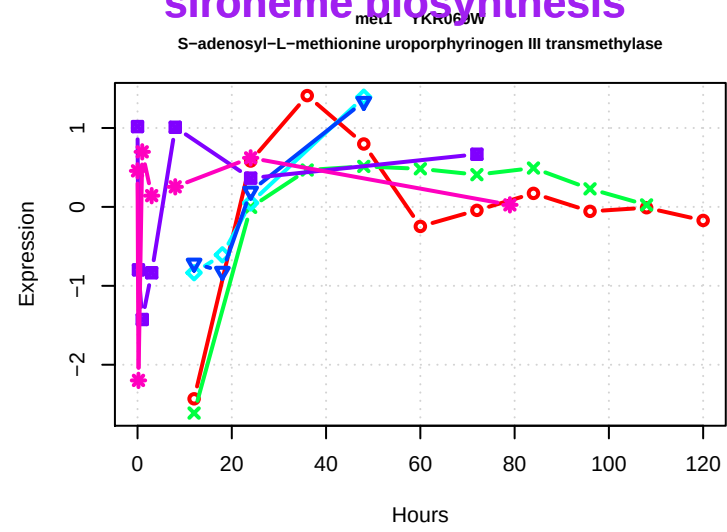
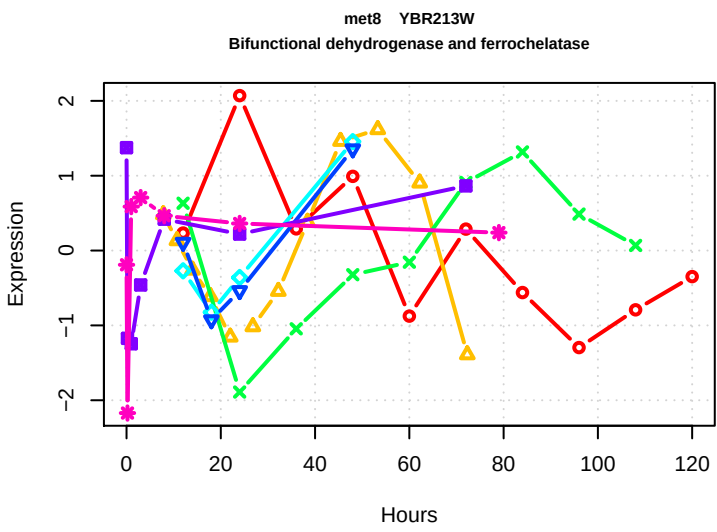
serine biosynthesis from 3-phosphoglycerate

serine biosynthesis from 3-phosphoglycerate



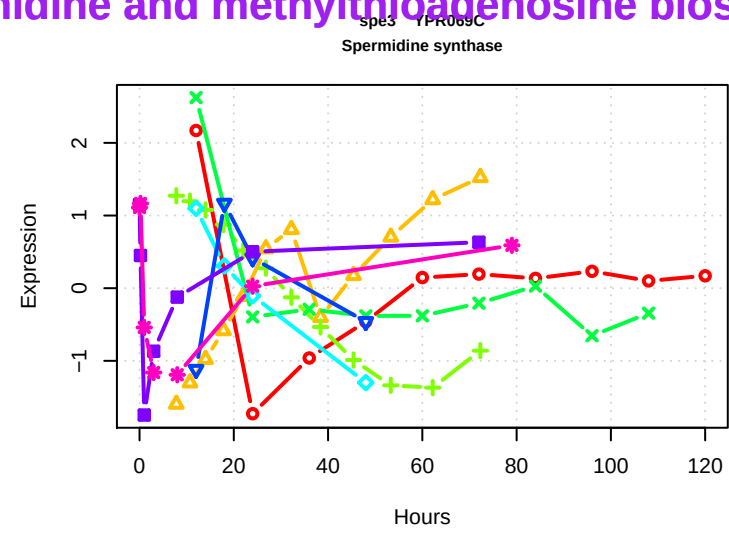
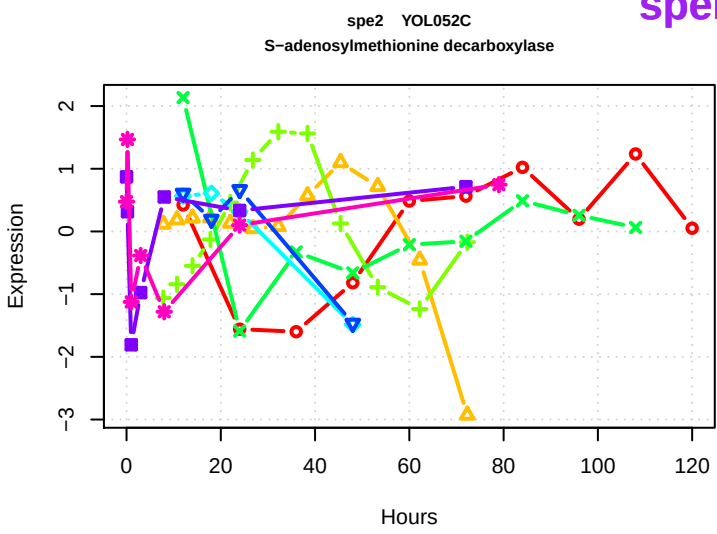
siroheme biosynthesis

siroheme biosynthesis



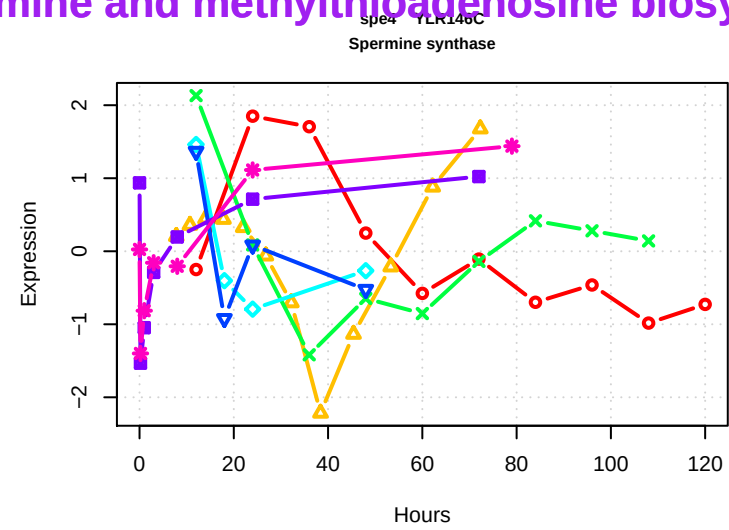
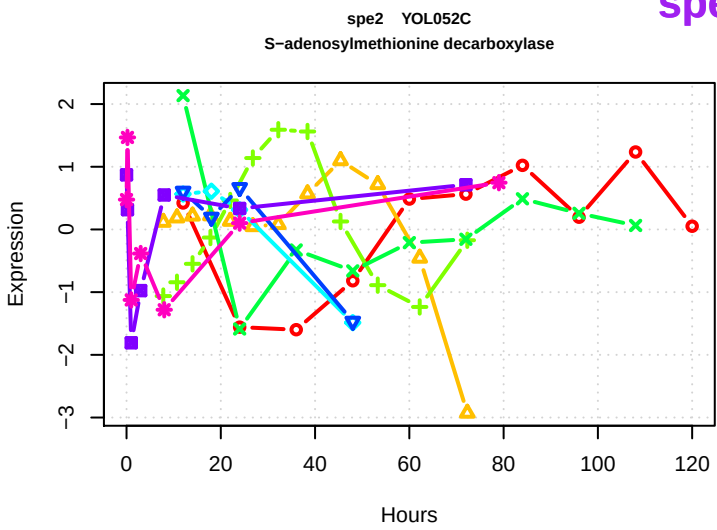
spermidine and methylthioadenosine biosynthesis

spermidine and methylthiadenosine biosynthesis



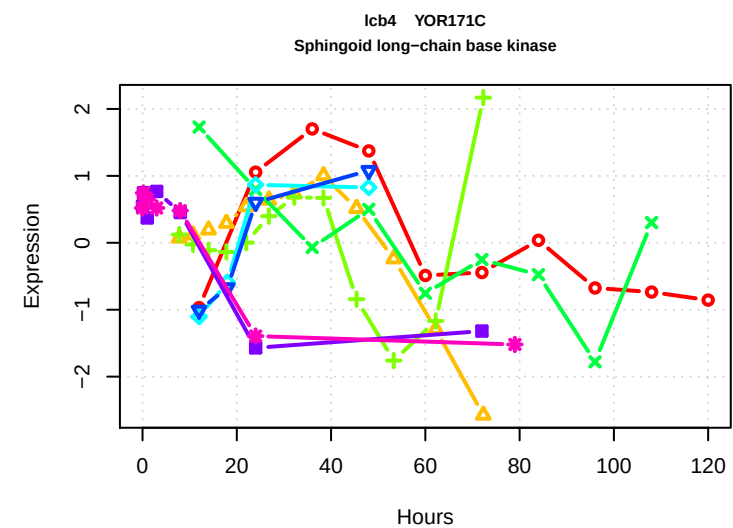
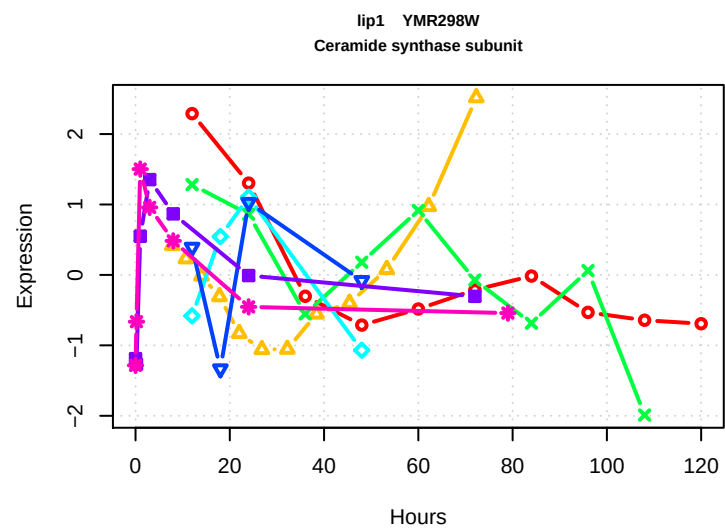
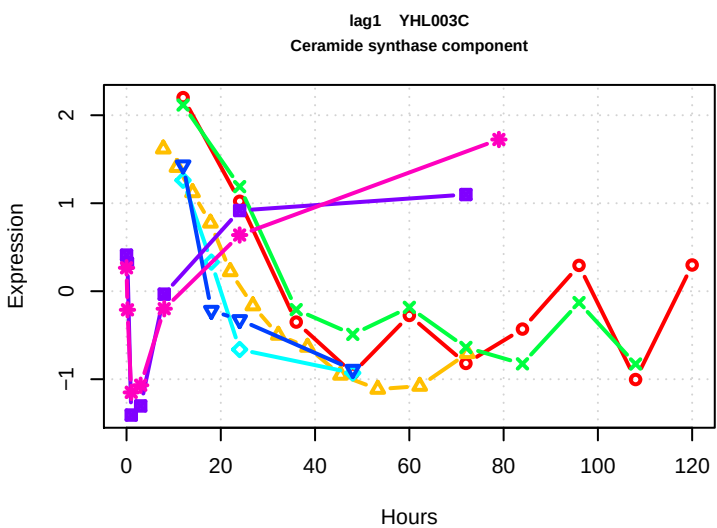
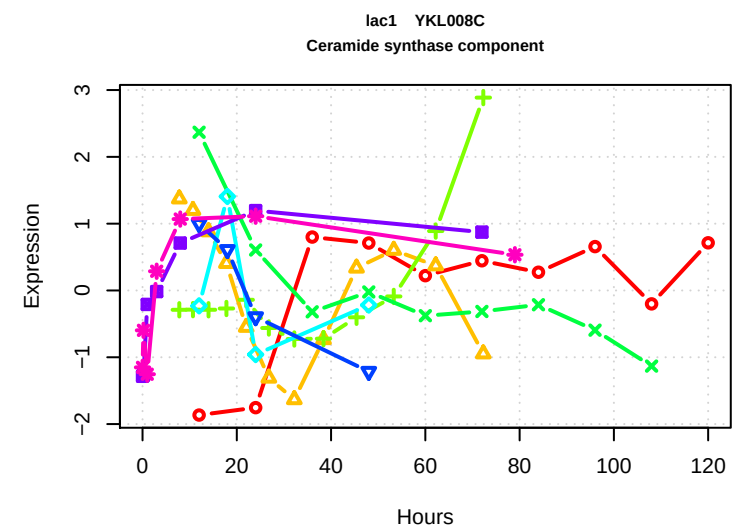
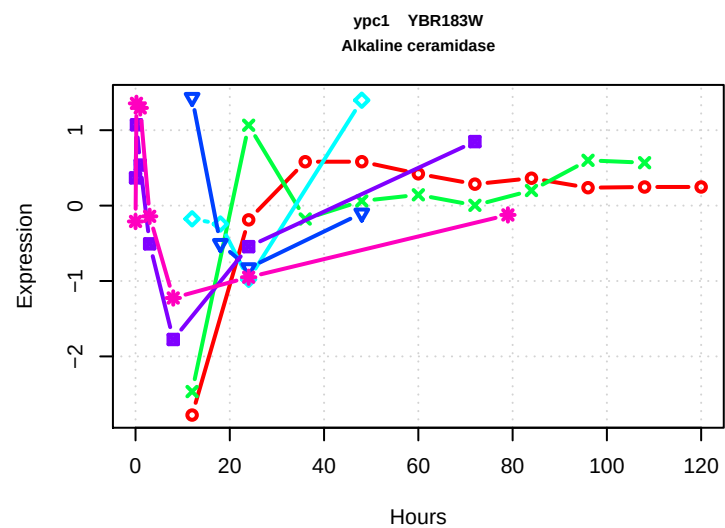
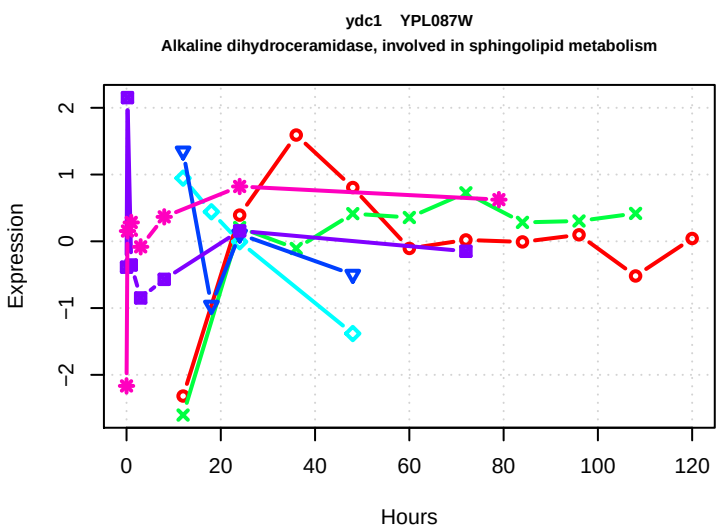
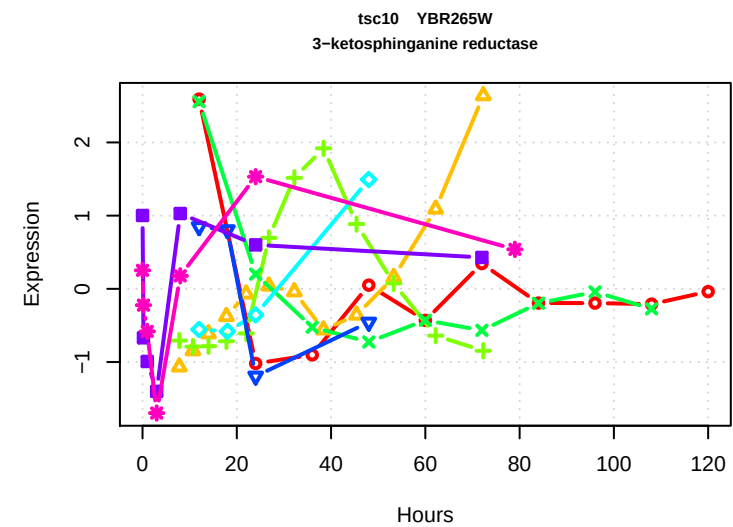
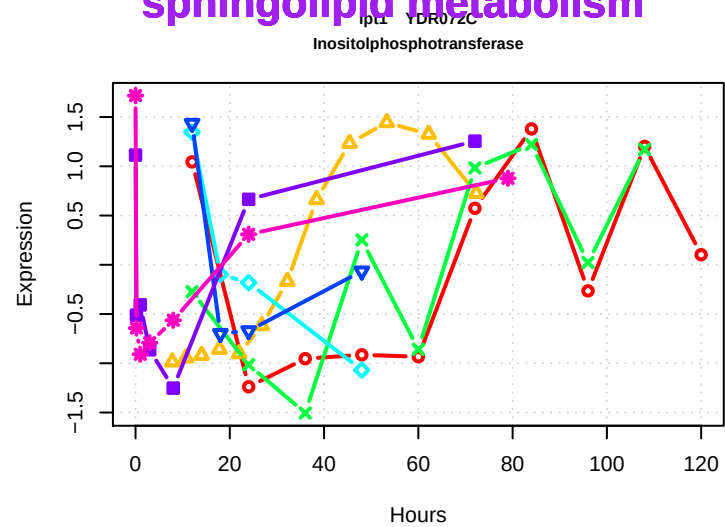
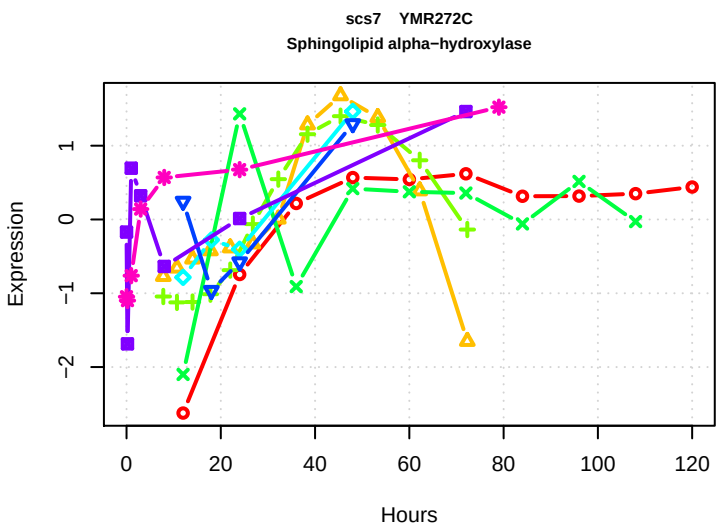
spermine and methylthioadenosine biosynthesis

spermine and methylthioadenosine biosynthesis

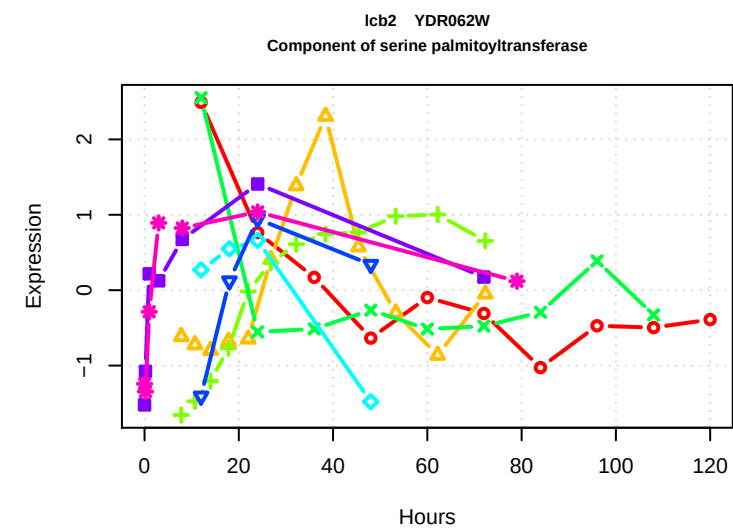
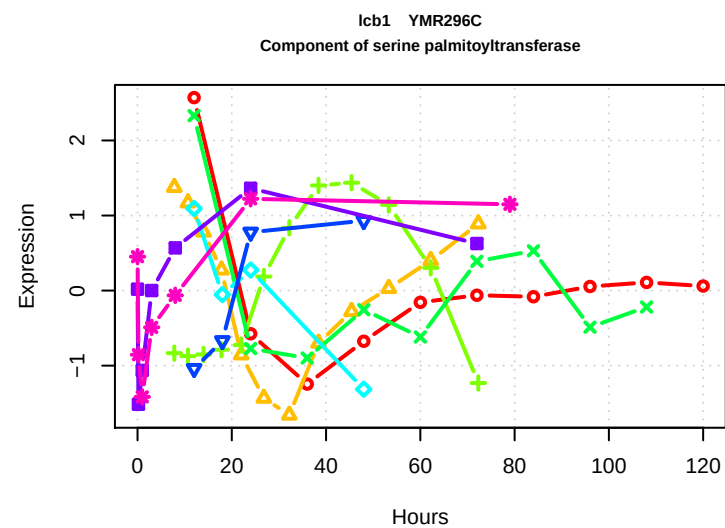
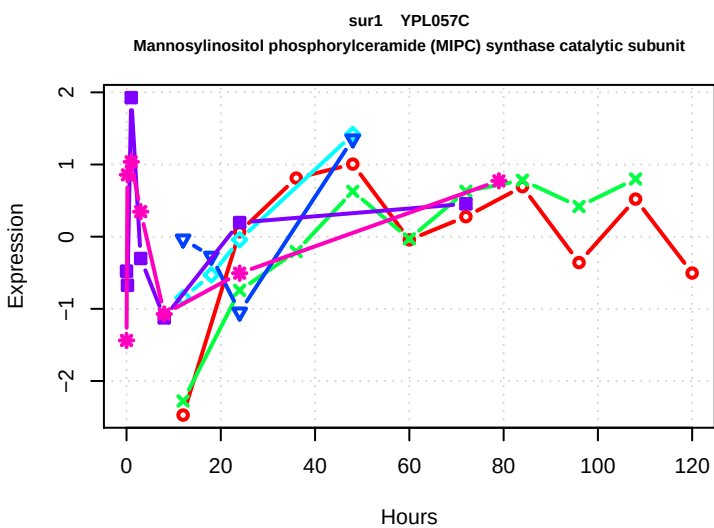
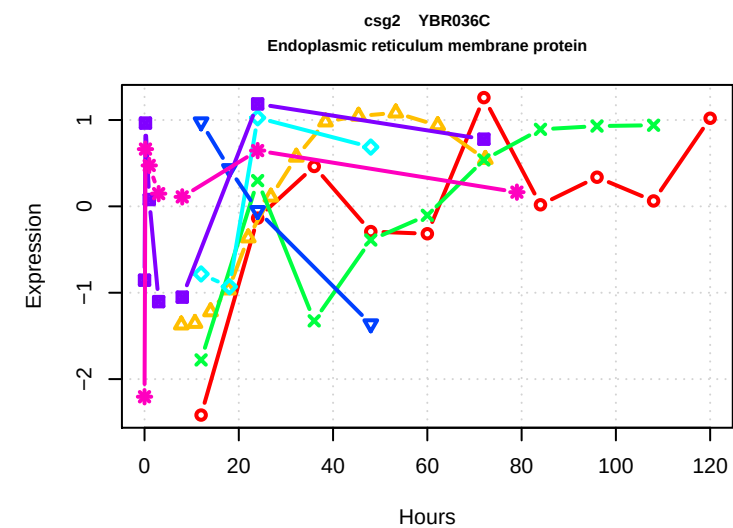
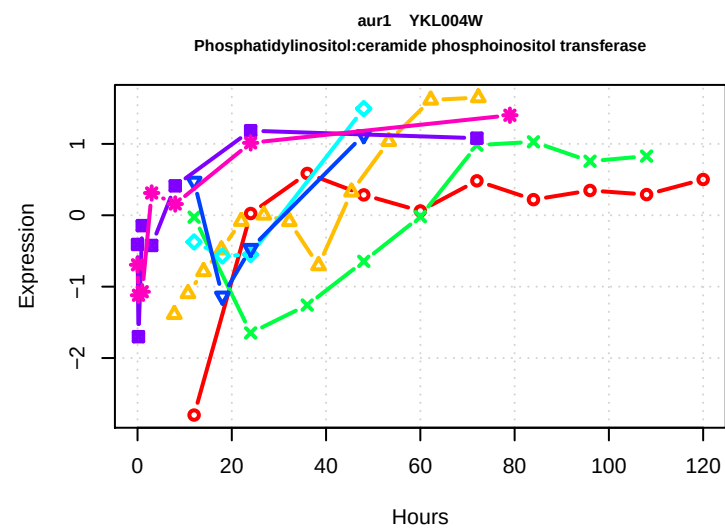
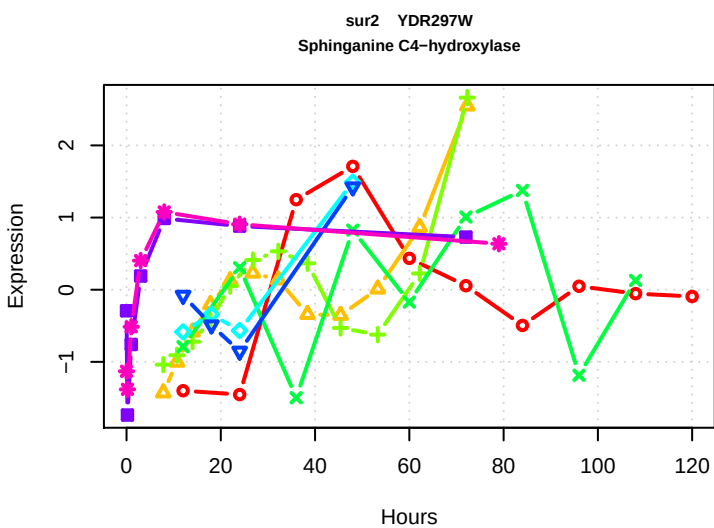
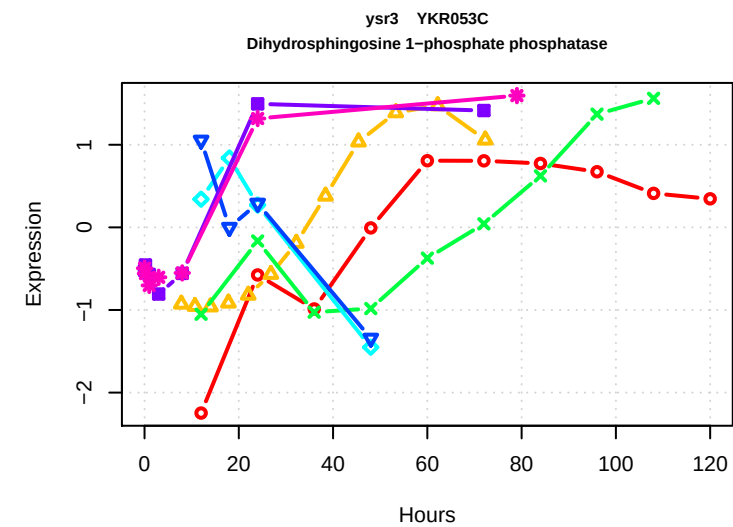
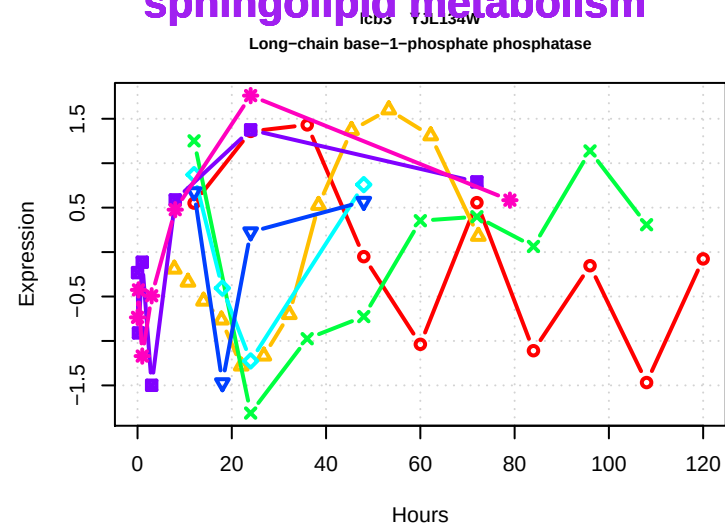
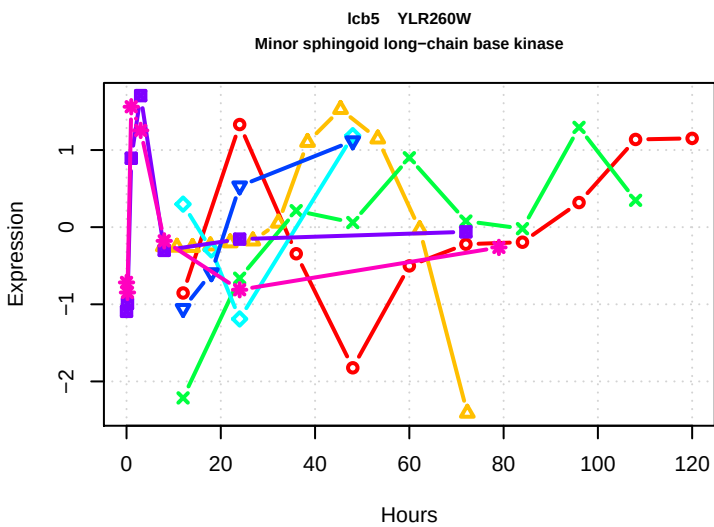


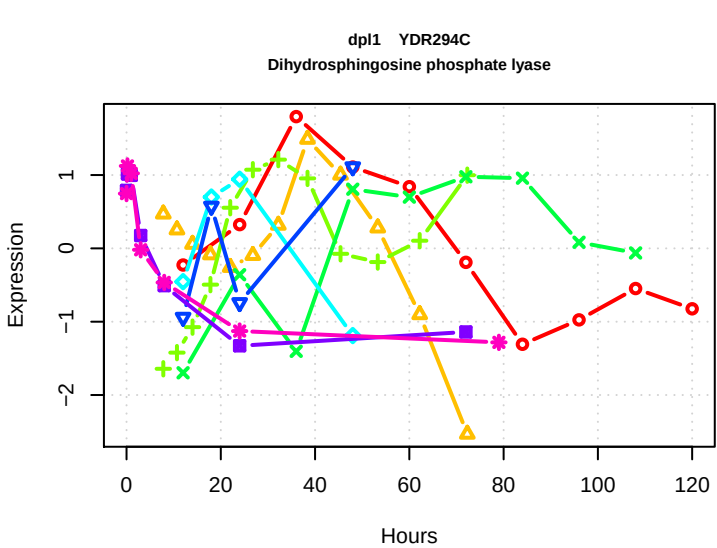
sphingolipid metabolism

sphingolipid metabolism



sphingolipid metabolism

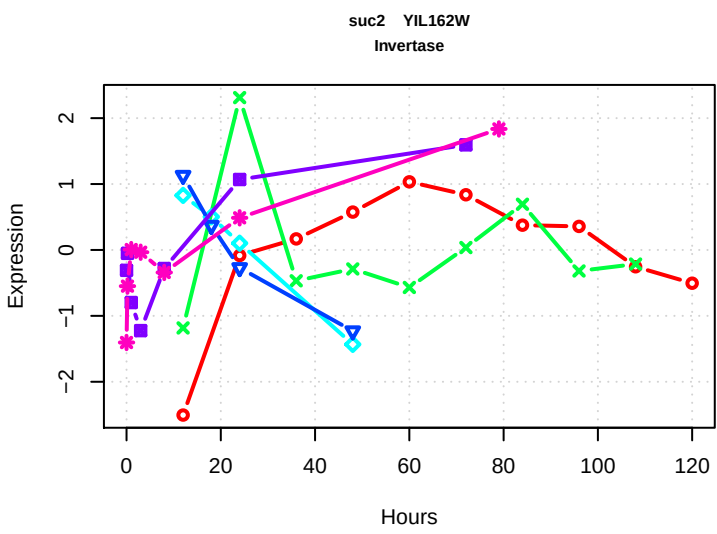




sphingolipidmetabolism

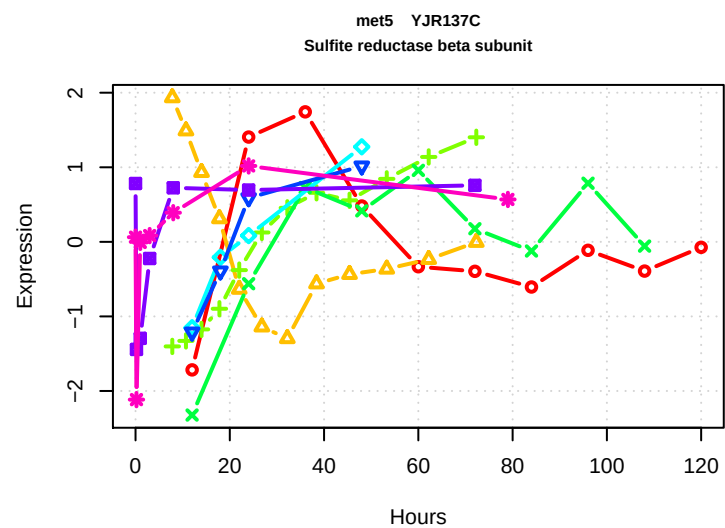
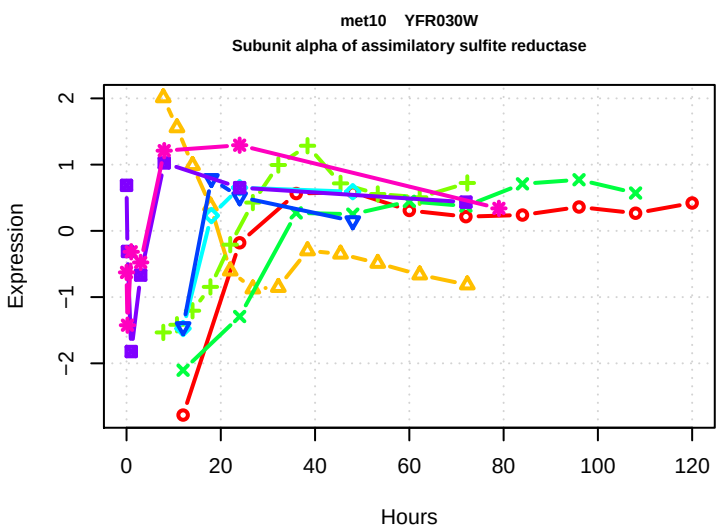
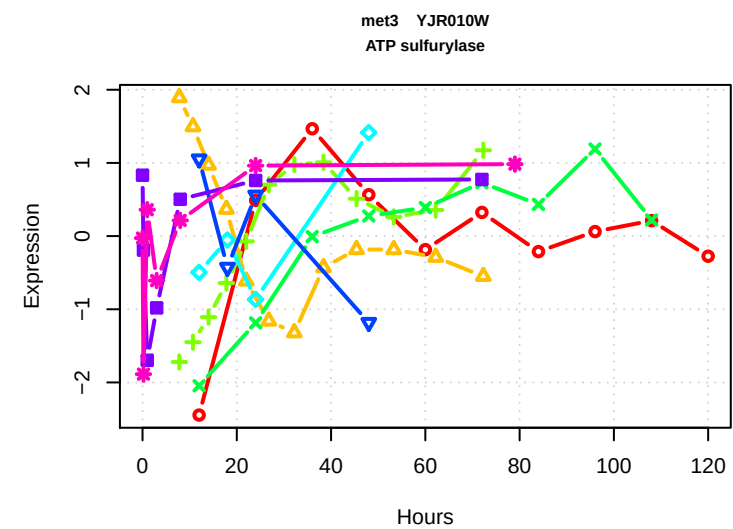
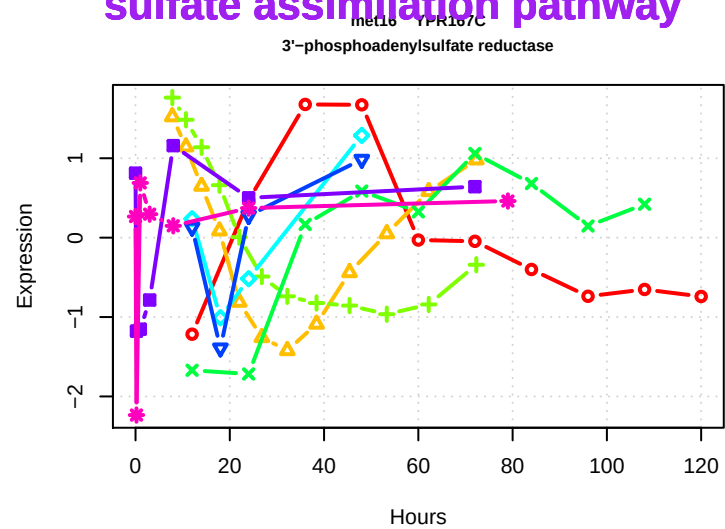
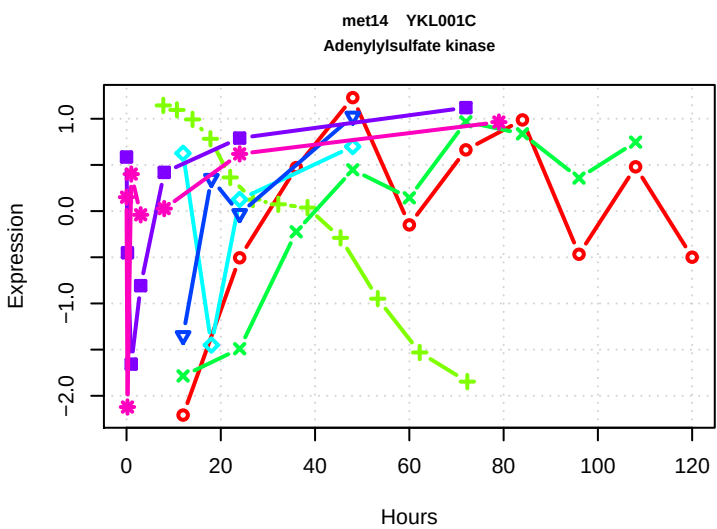
sucrose degradation

sucrose degradation



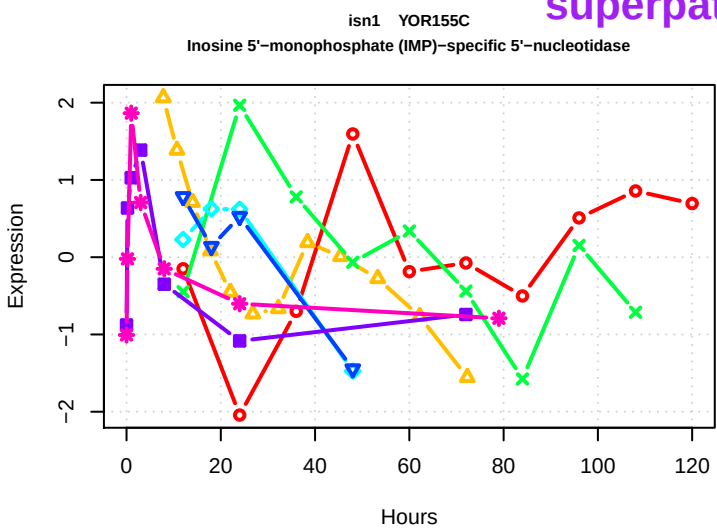
sulfate assimilation pathway

sulfate assimilation pathway



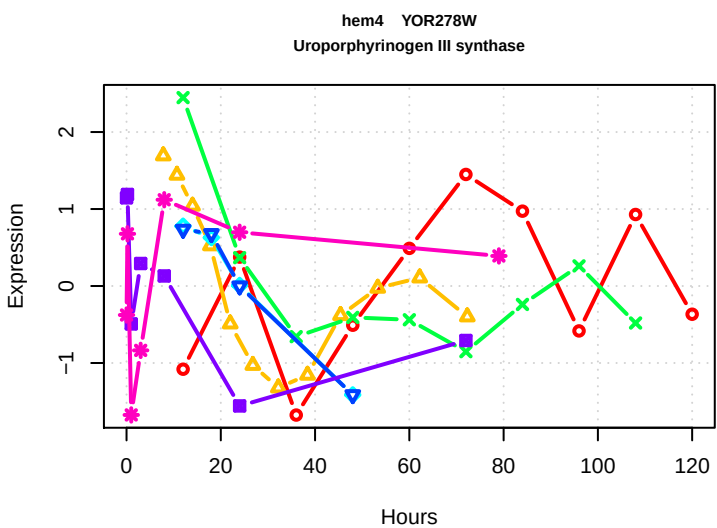
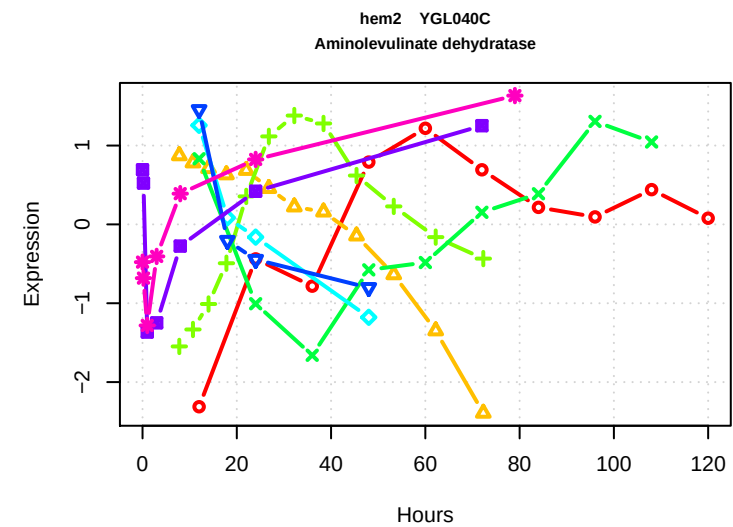
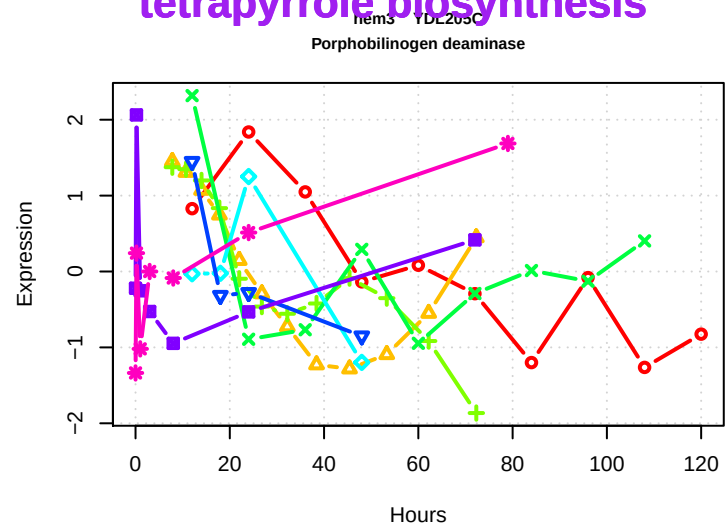
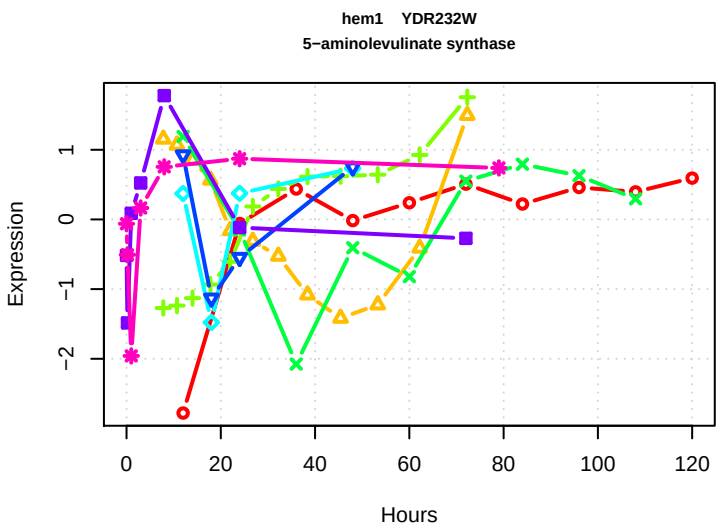
superpathway of purine biosynthesis and salvage pathways

superpathway of purine biosynthesis and salvage pathways



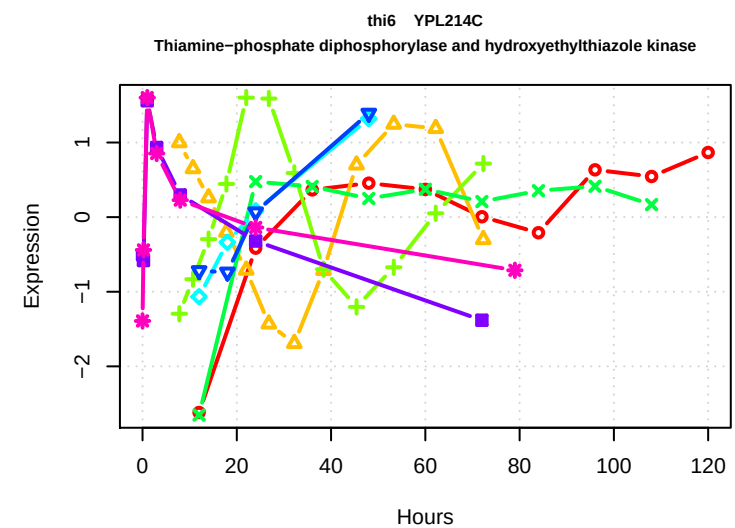
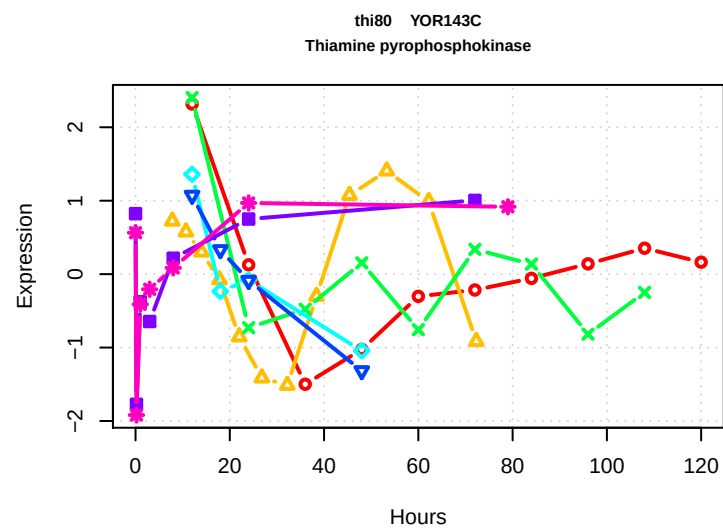
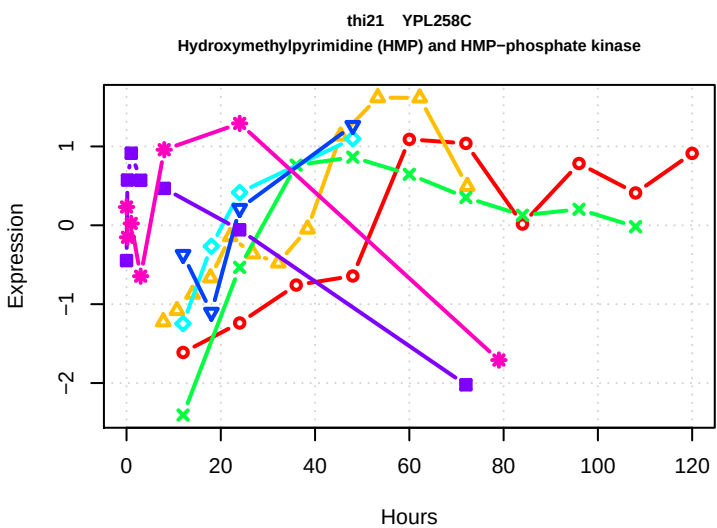
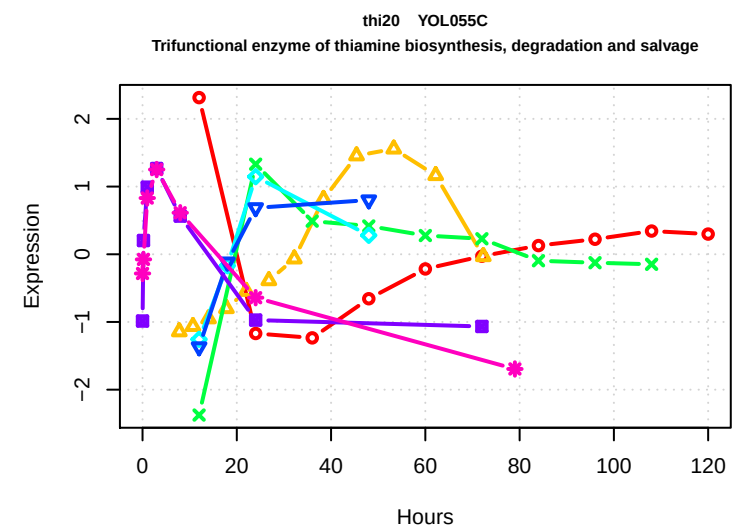
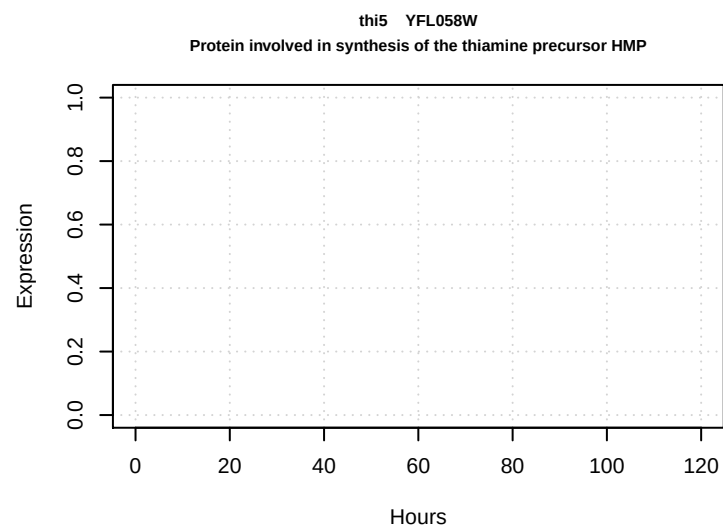
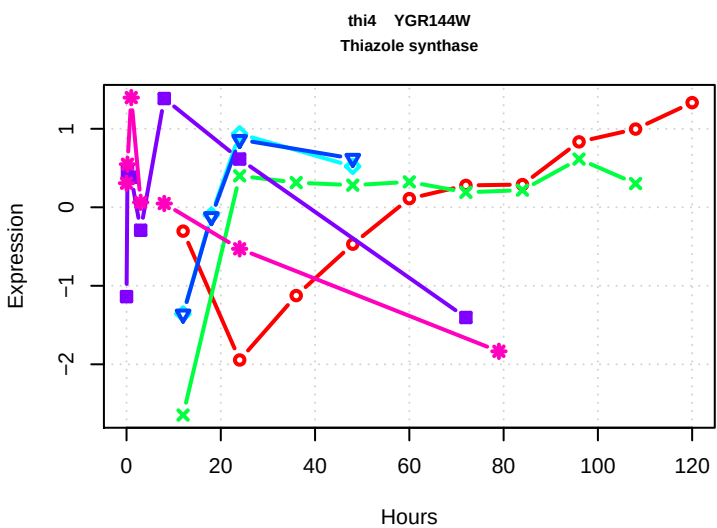
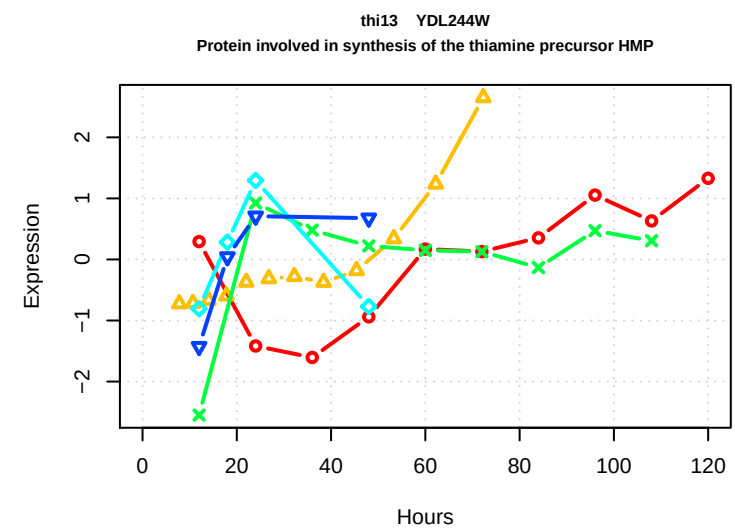
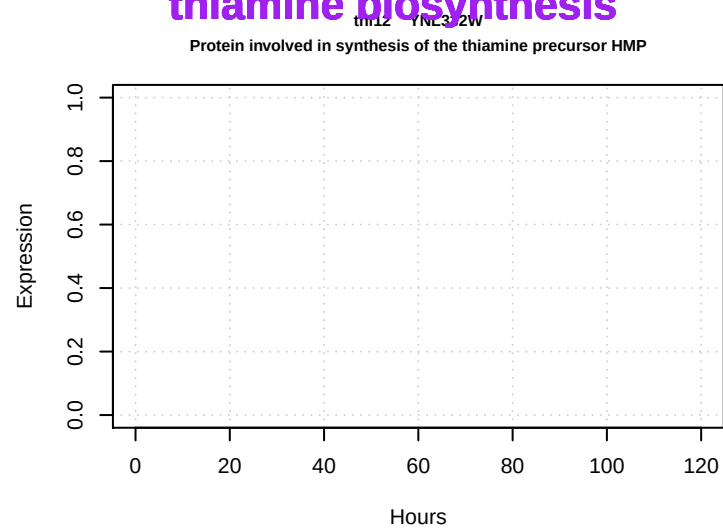
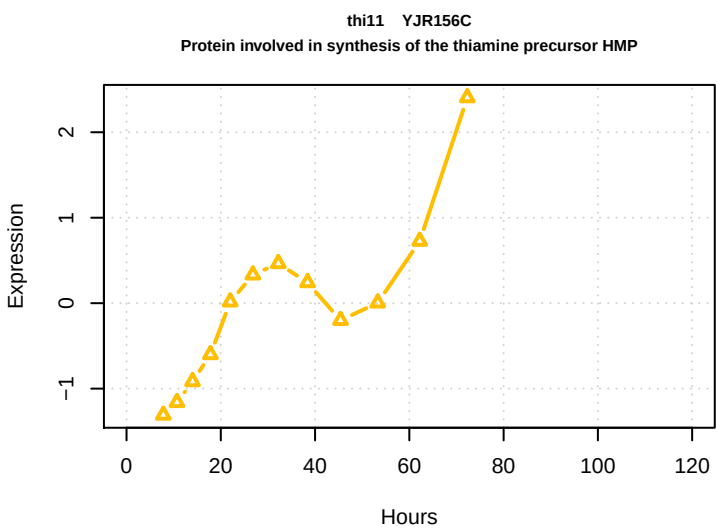
tetrapyrrole biosynthesis

tetrapyrrole biosynthesis



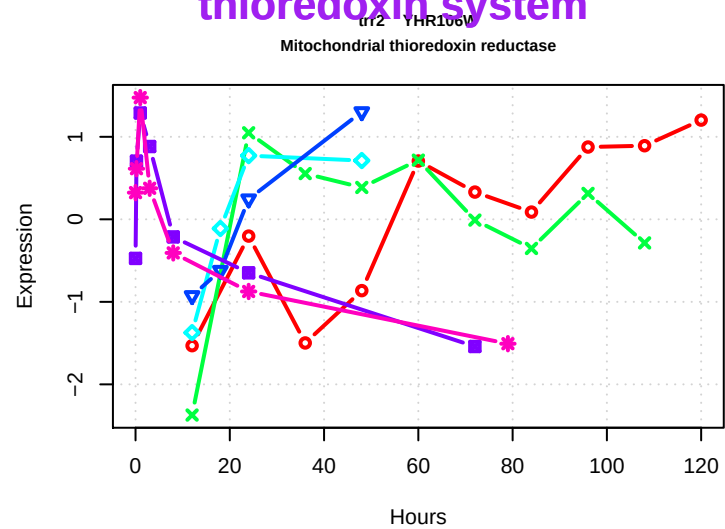
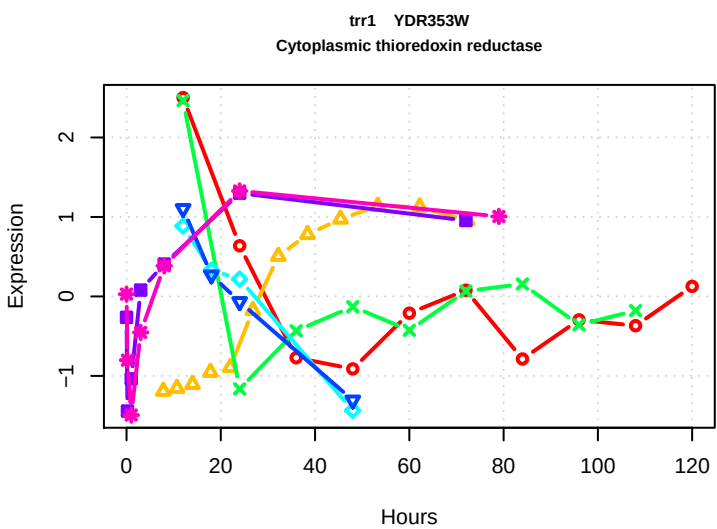
thiamine biosynthesis

thiamine biosynthesis



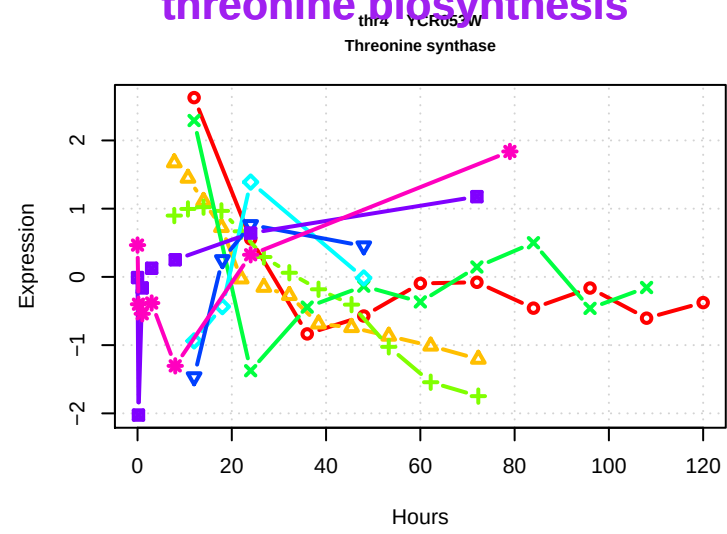
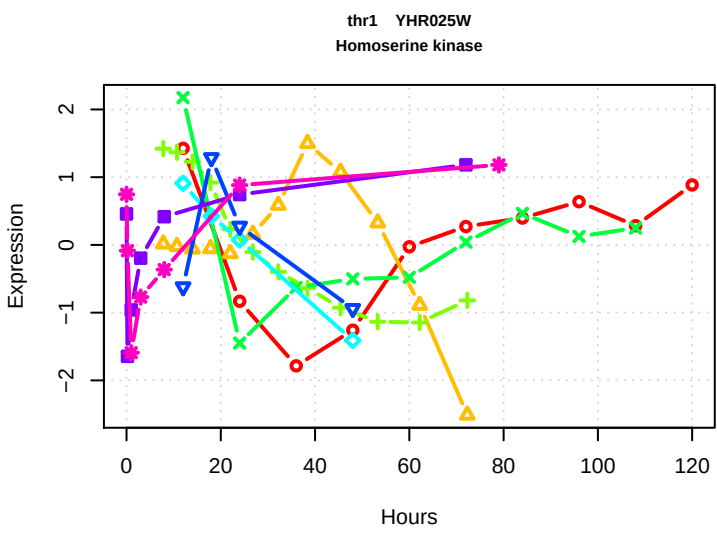
thioredoxin system

thioredoxin system



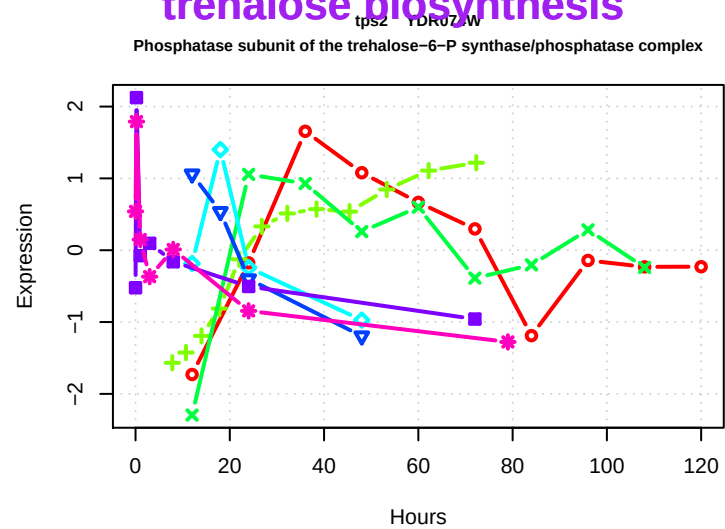
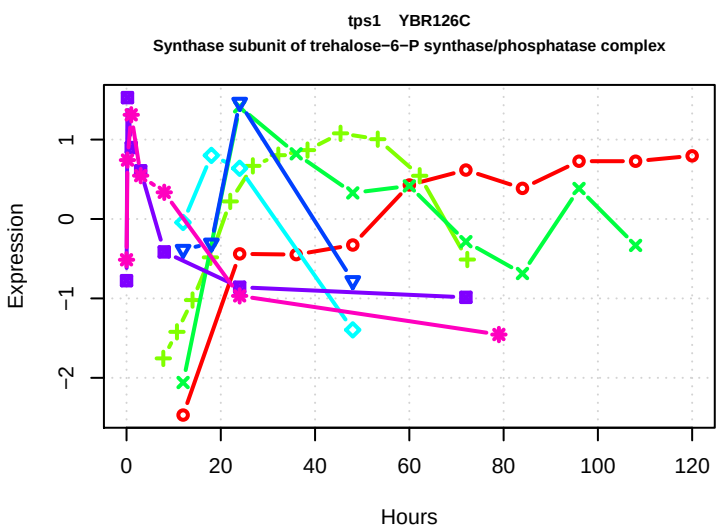
threonine biosynthesis

threonine biosynthesis



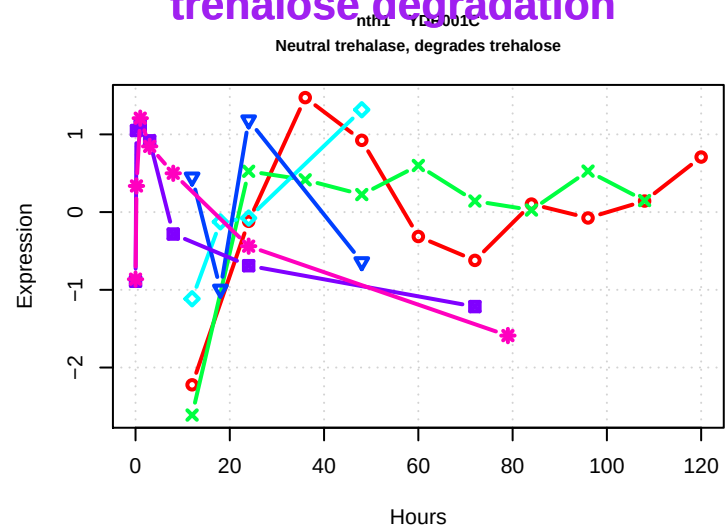
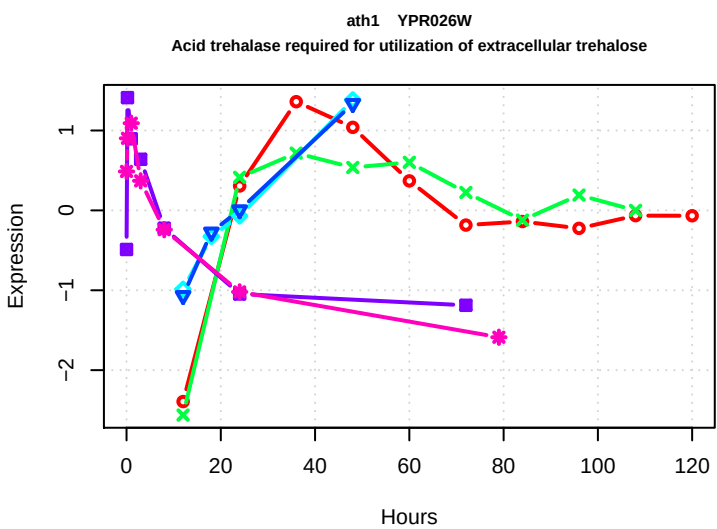
trehalose biosynthesis

trehalose biosynthesis



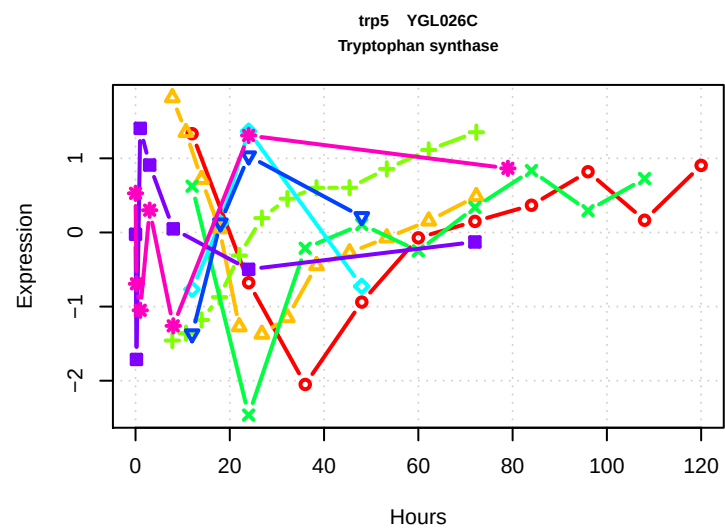
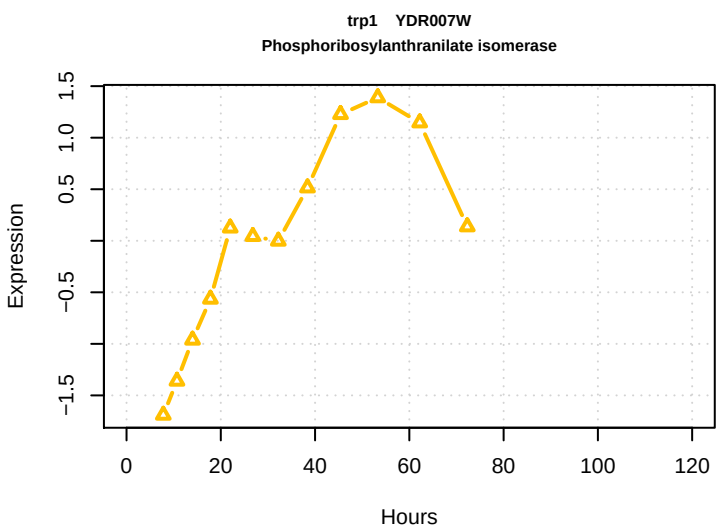
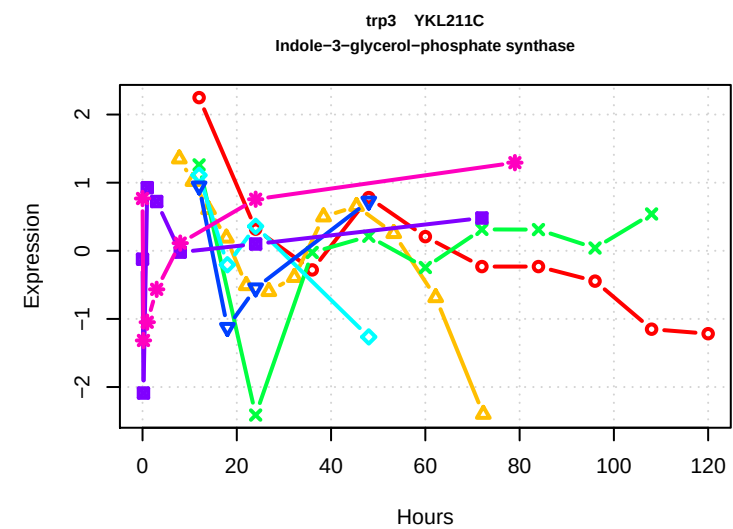
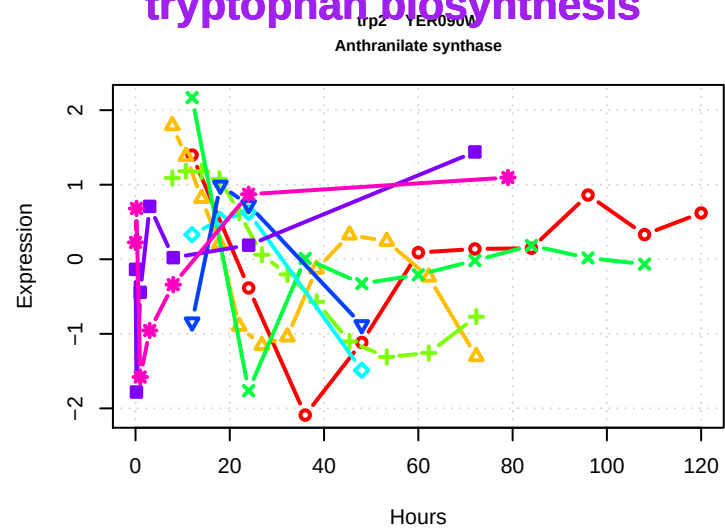
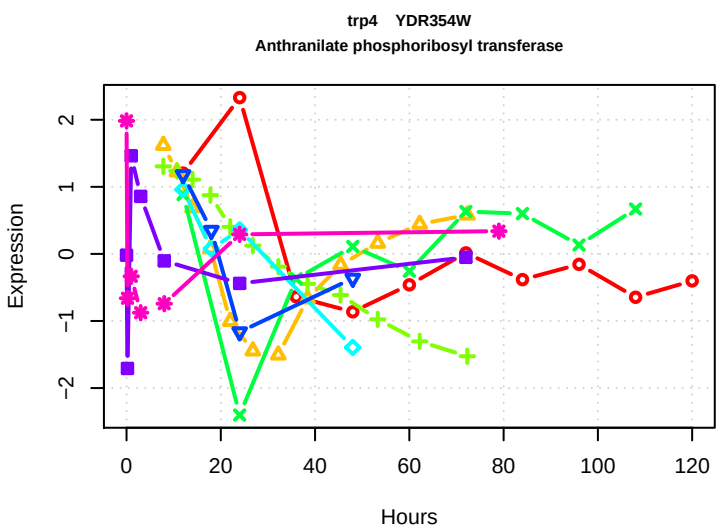
trehalose degradation

trehalose degradation



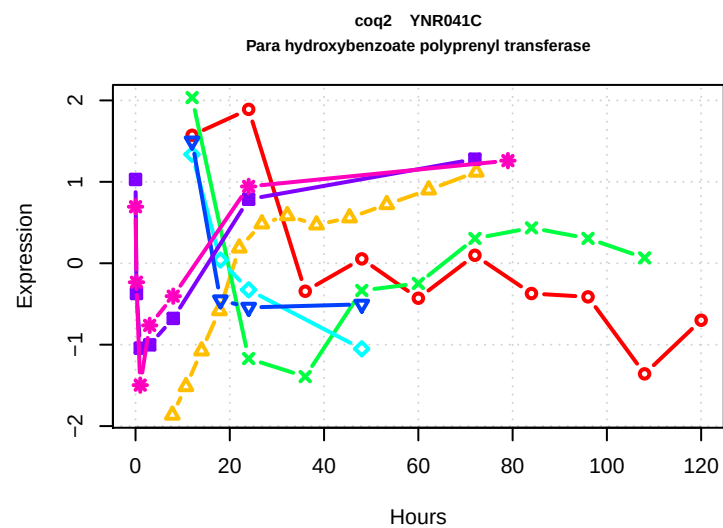
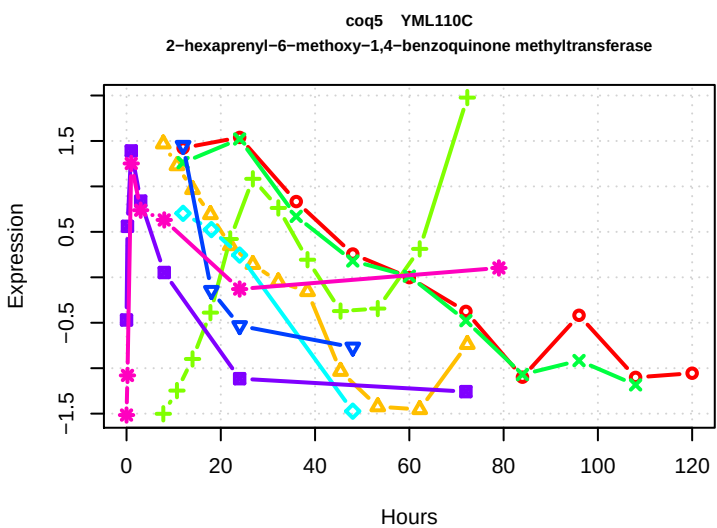
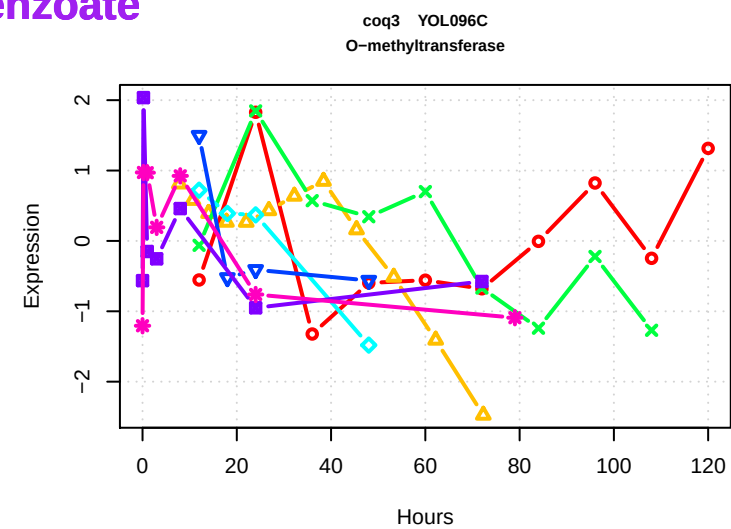
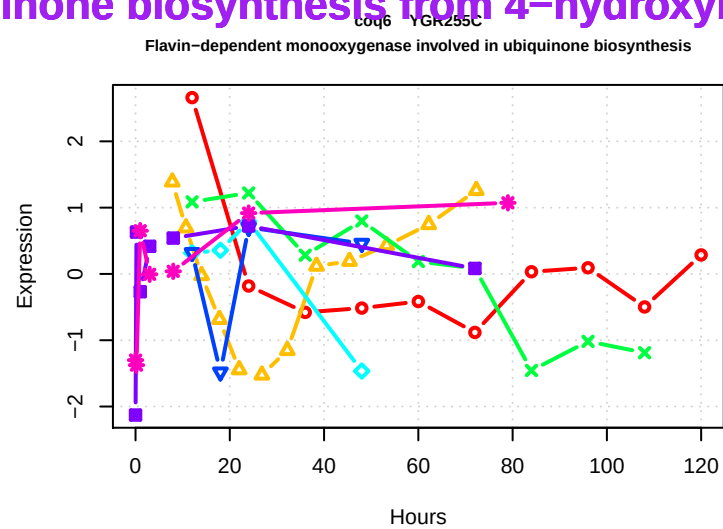
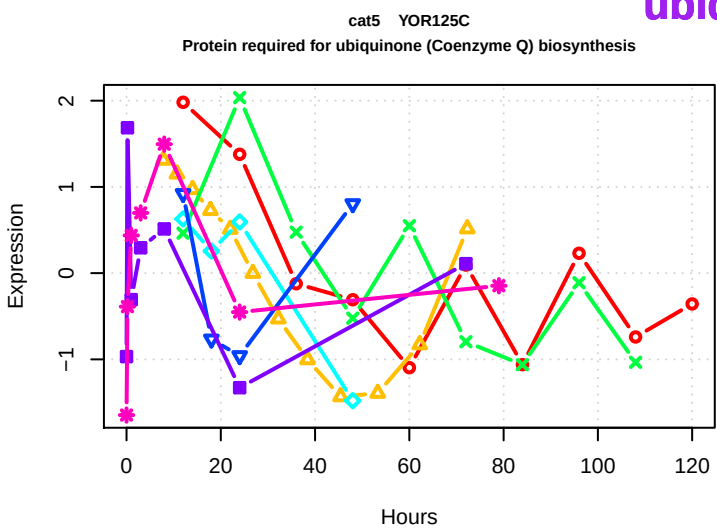
tryptophan biosynthesis

tryptophan biosynthesis



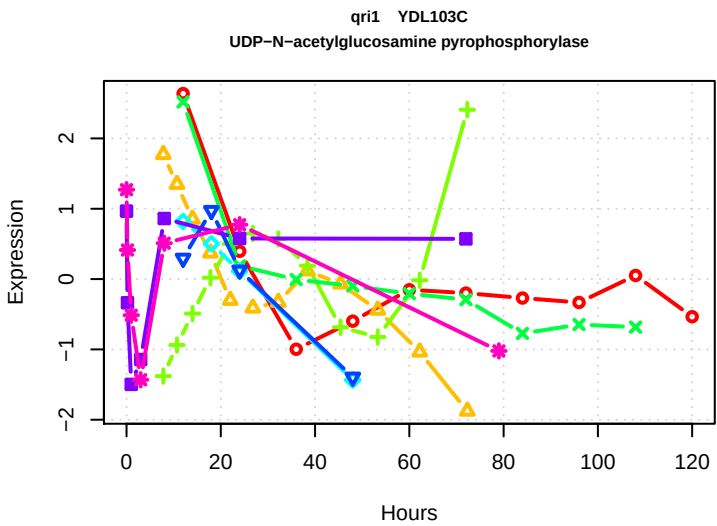
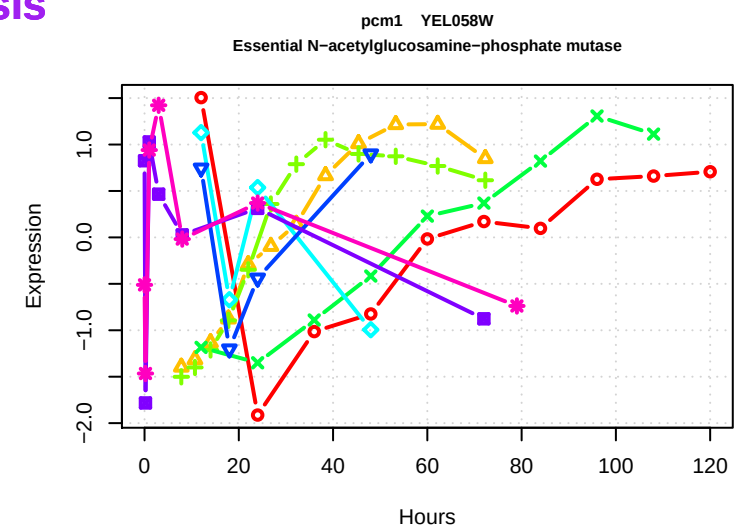
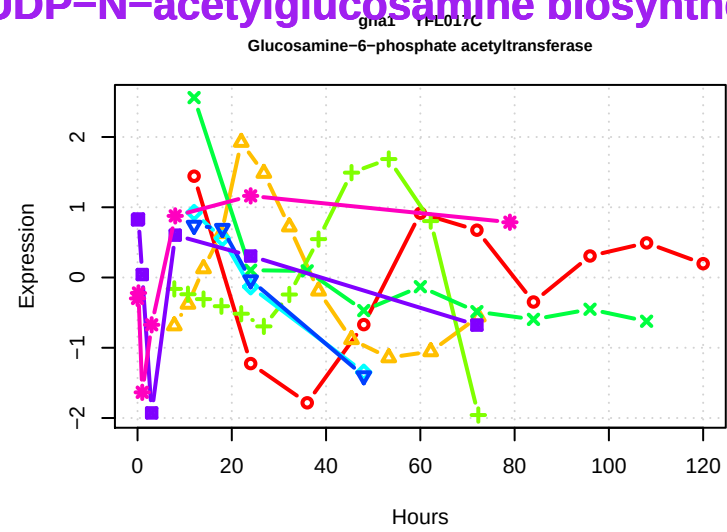
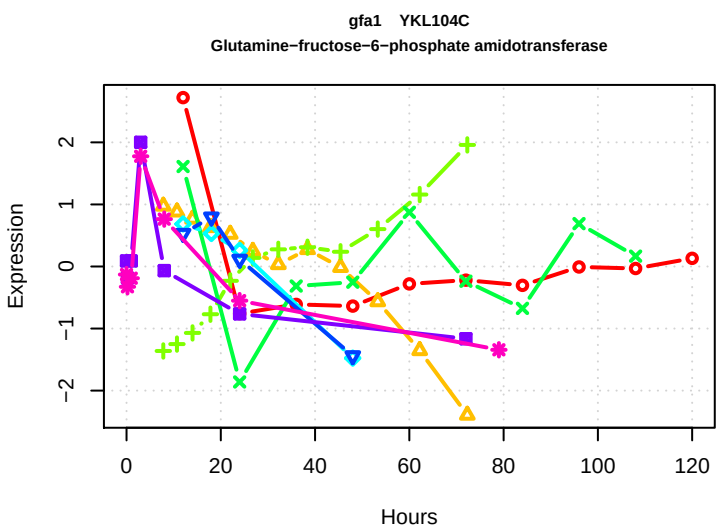
ubiquinone biosynthesis from 4-hydroxybenzoate

ubiquinone biosynthesis from 4-hydroxybenzoate



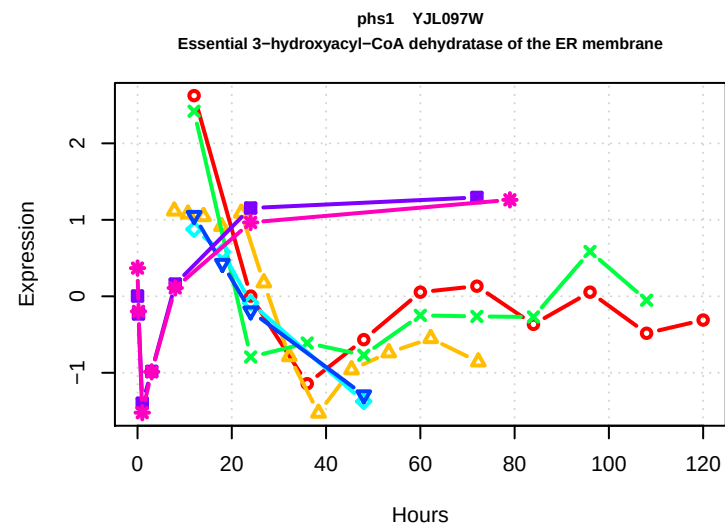
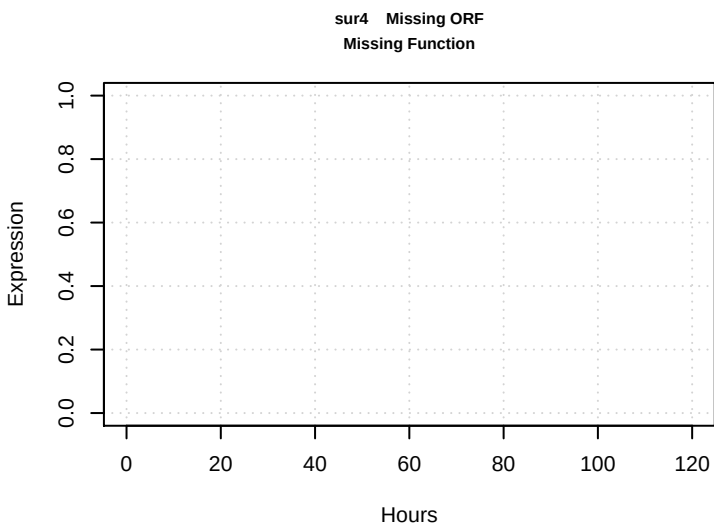
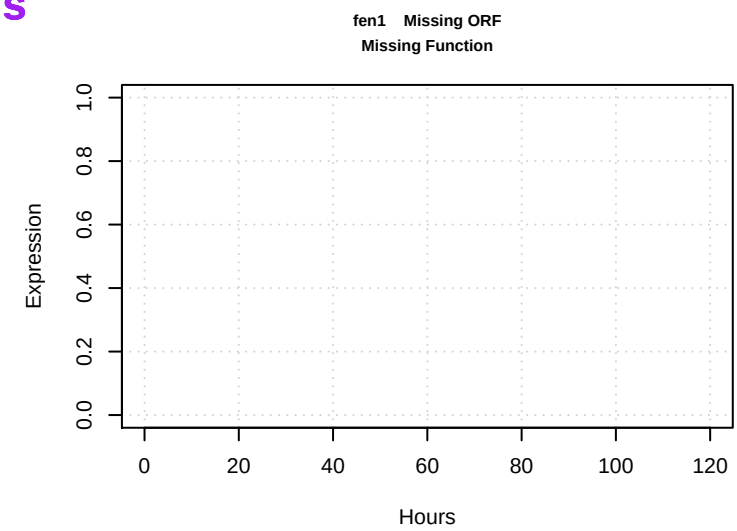
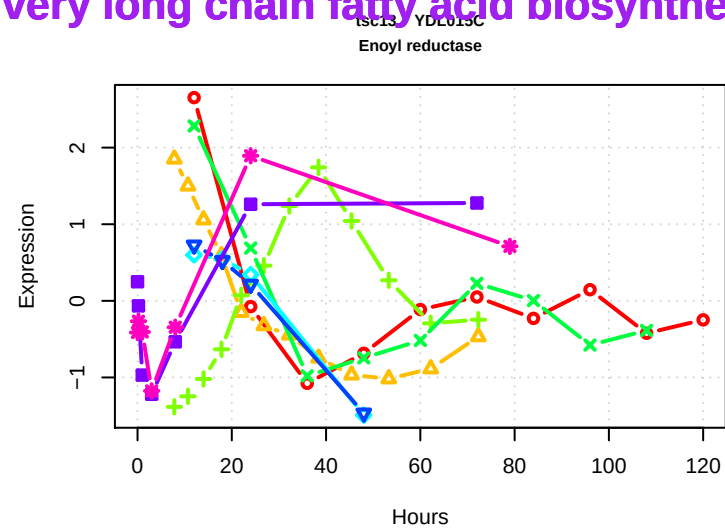
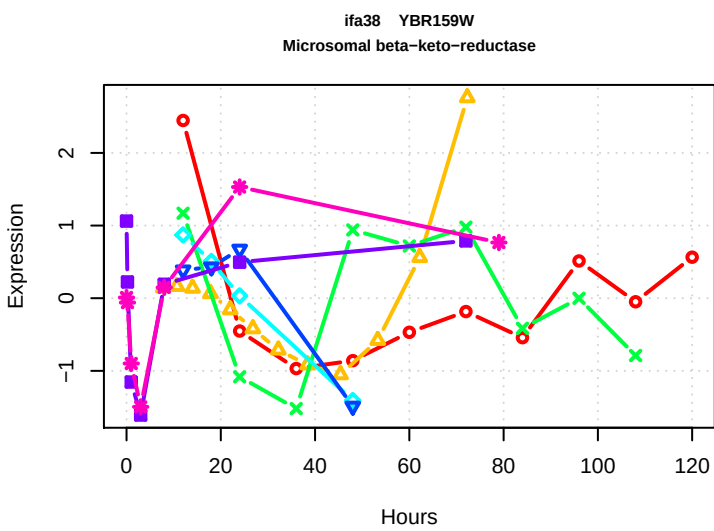
UDP–N–acetylglucosamine biosynthesis

UDP-N-acetylglucosamine biosynthesis

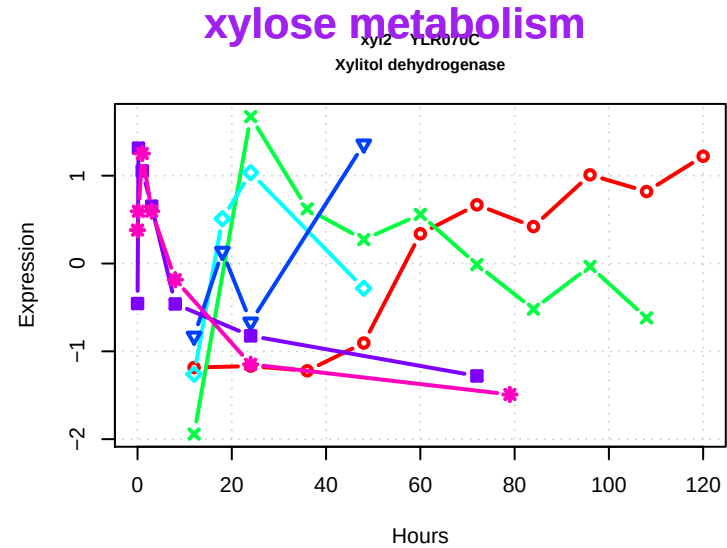
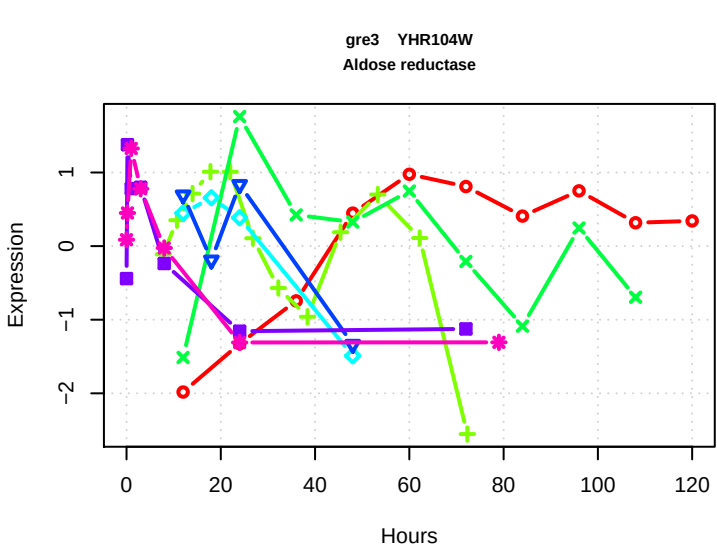


very long chain fatty acid biosynthesis

very long chain fatty acid biosynthesis



xylose metabolism



xylulose degradation

xylulose degradation

