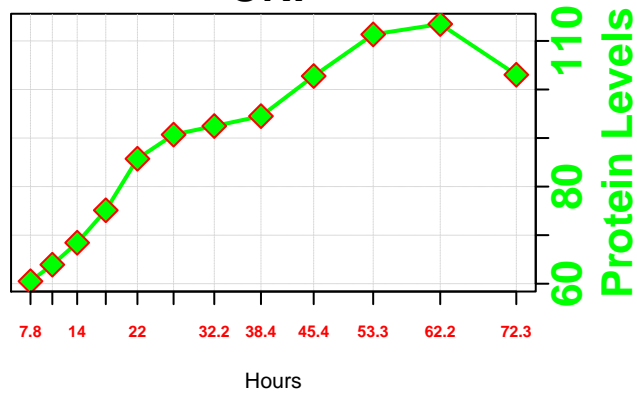
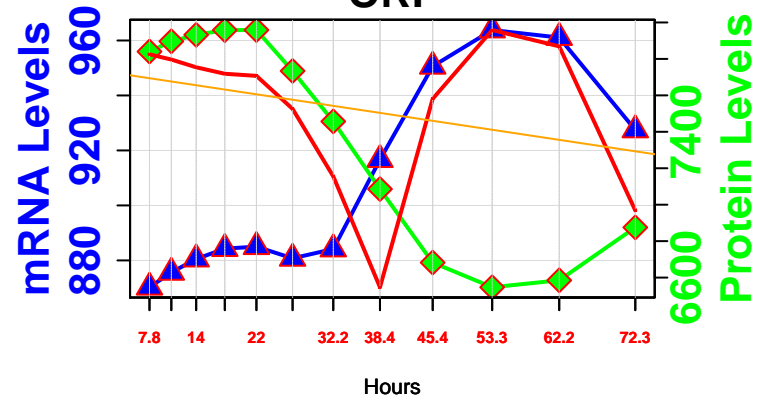


glutamate biosynthesis from ammonia

3: GDH3
YAL062W
ORF

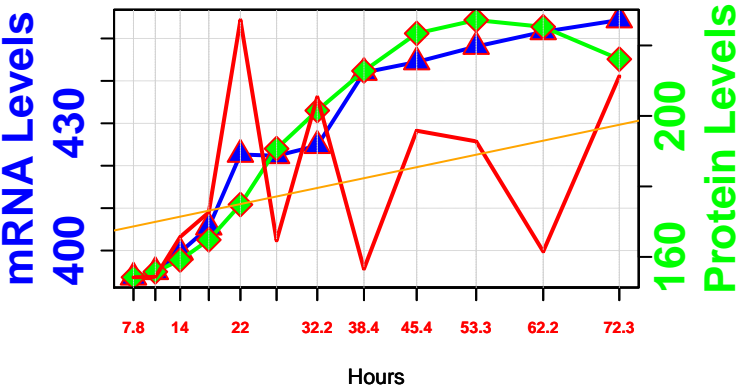


4807: GDH1
YOR375C
ORF

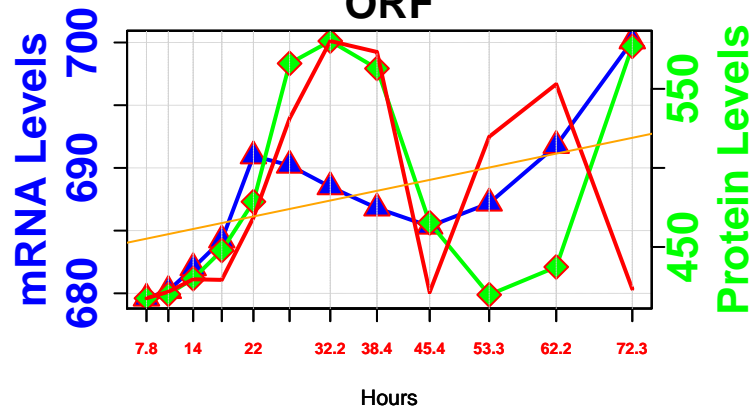


acetoin biosynthesis

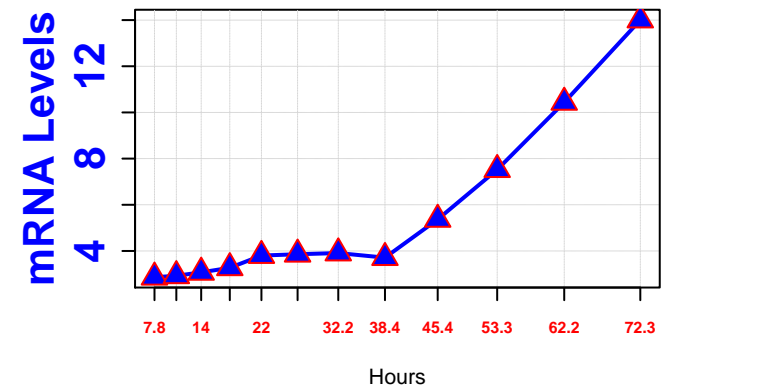
5: BDH1
YAL060W
ORF



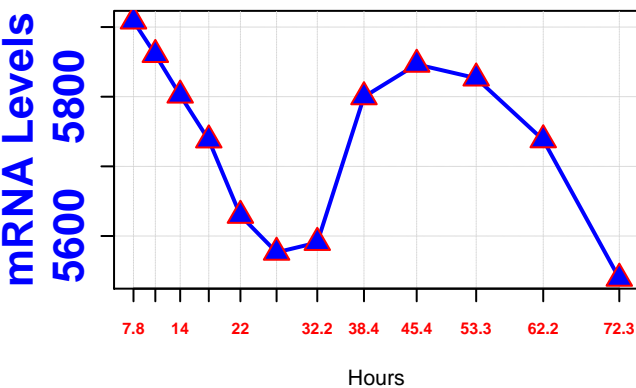
500: ILV6
YCL009C
ORF



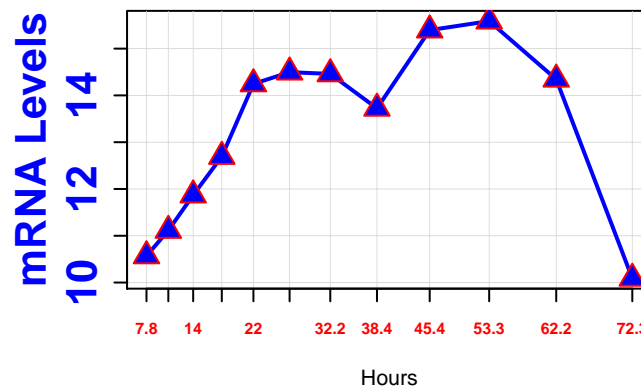
2147: PDC6
YGR087C
ORF



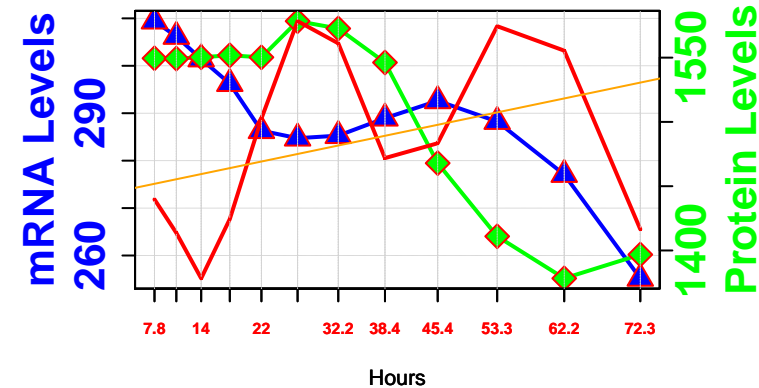
3240: PDC1
YLR044C
ORF

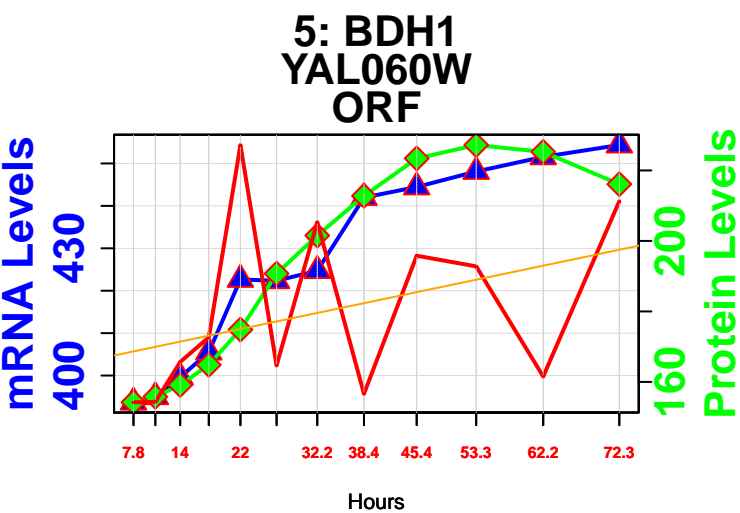


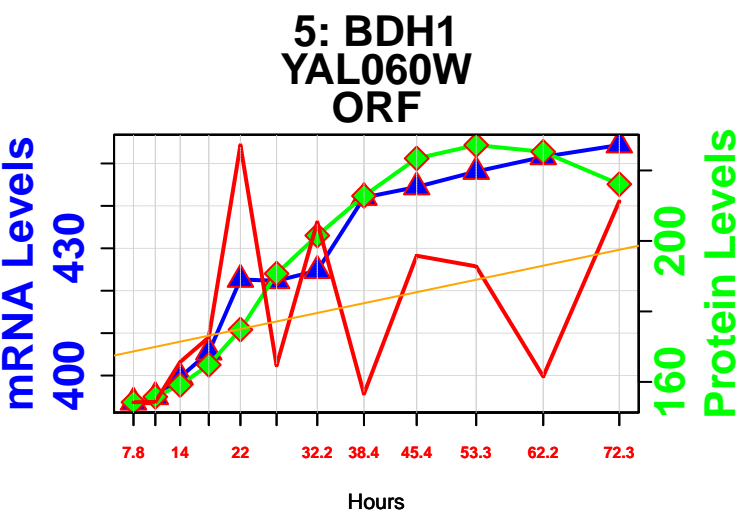
3319: PDC5
YLR134W
ORF

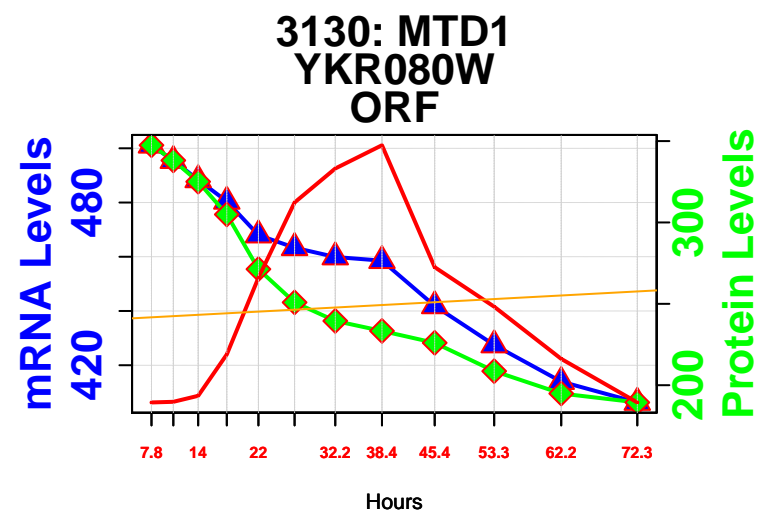
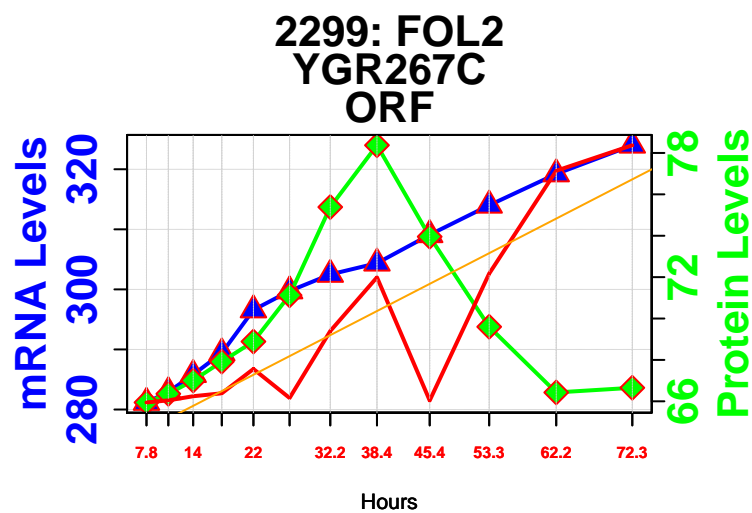
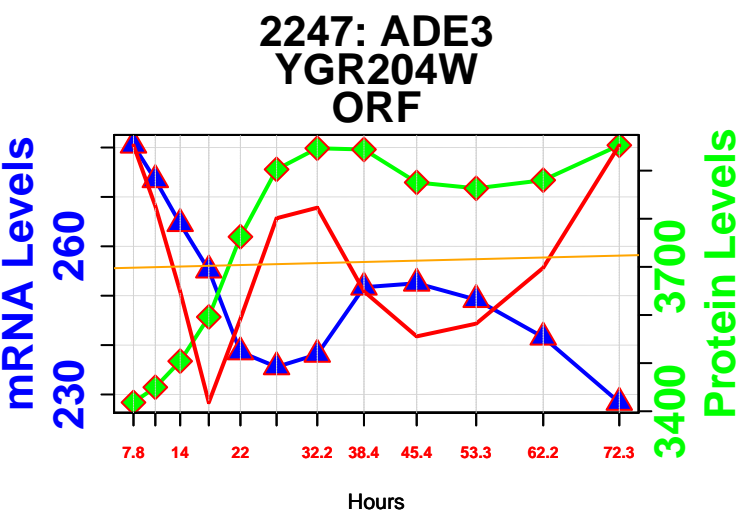
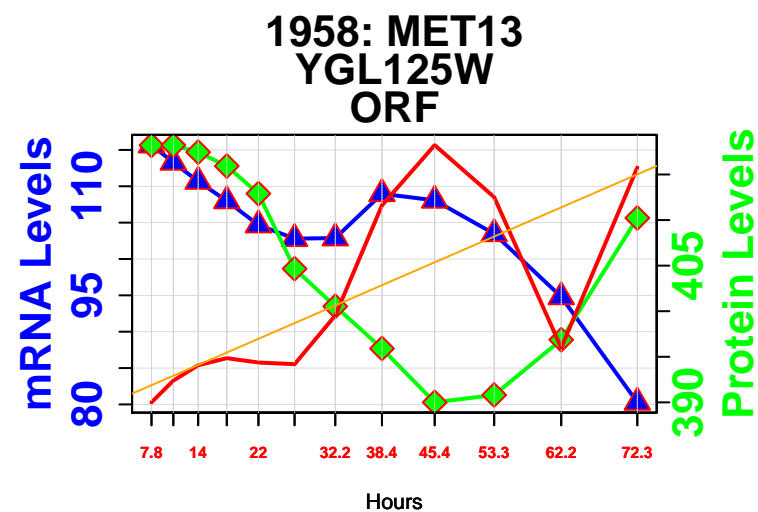
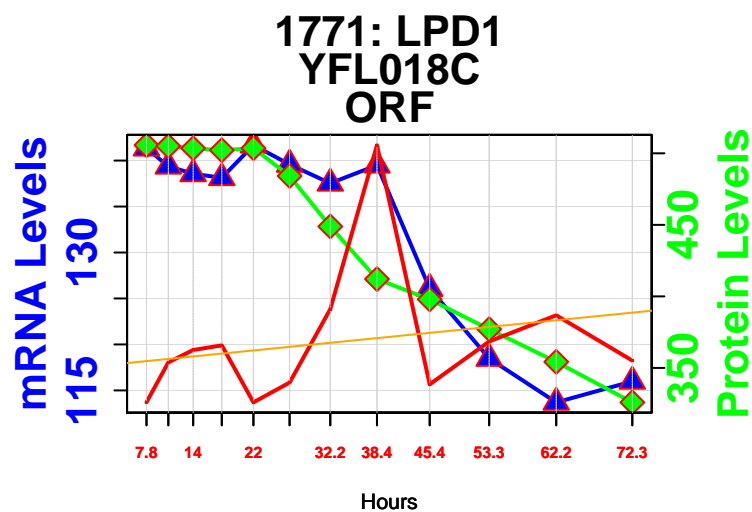
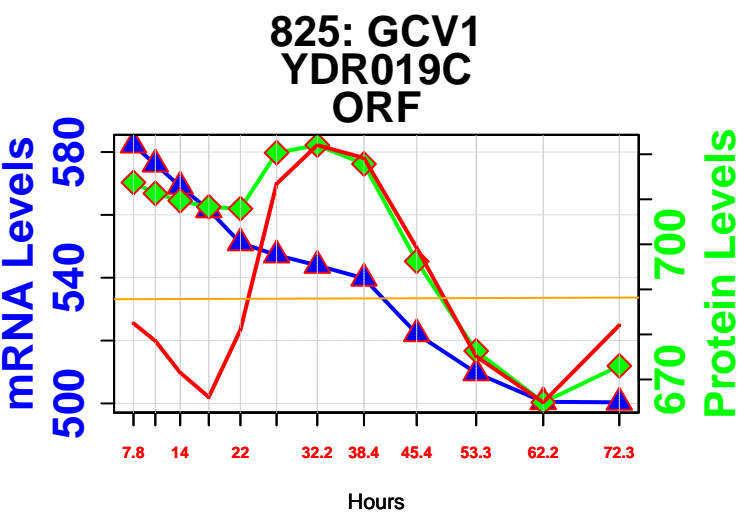
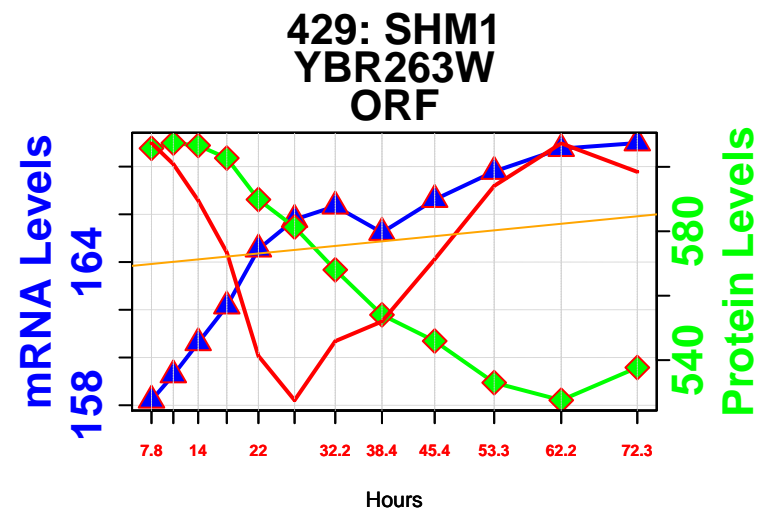
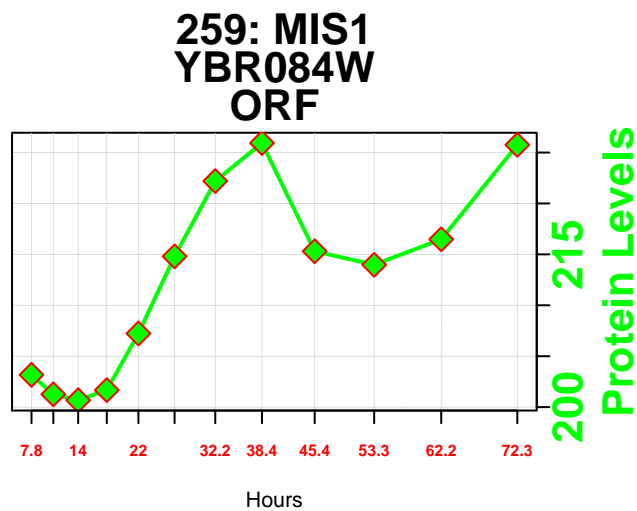
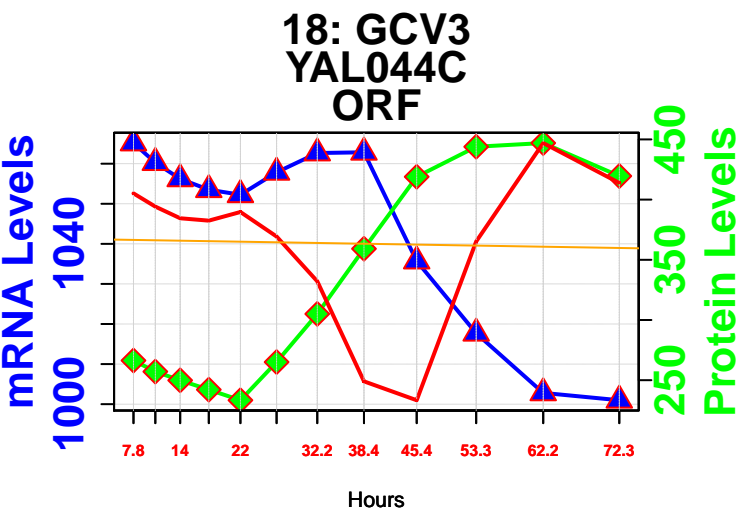


3807: ILV2
YMR108W
ORF



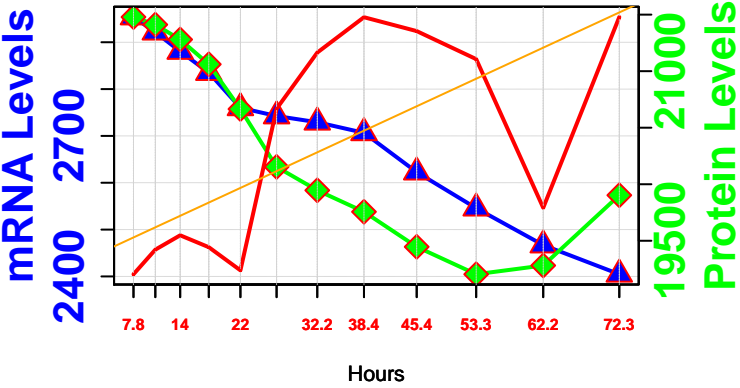




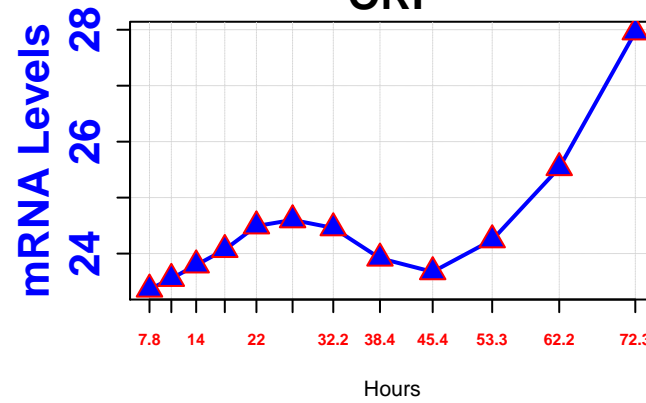


folate biosynthesis

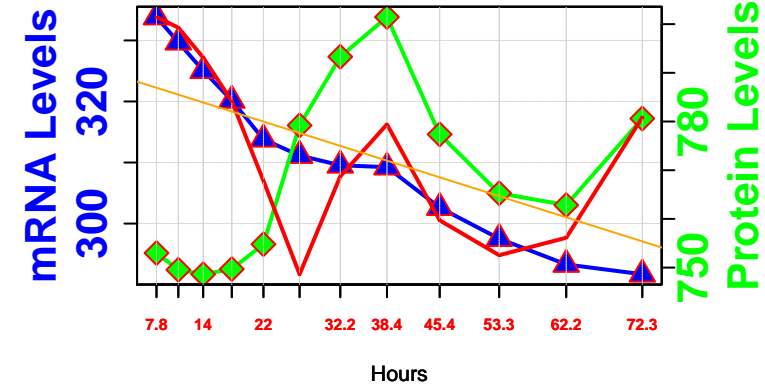
3253: SHM2
YLR058C
ORF



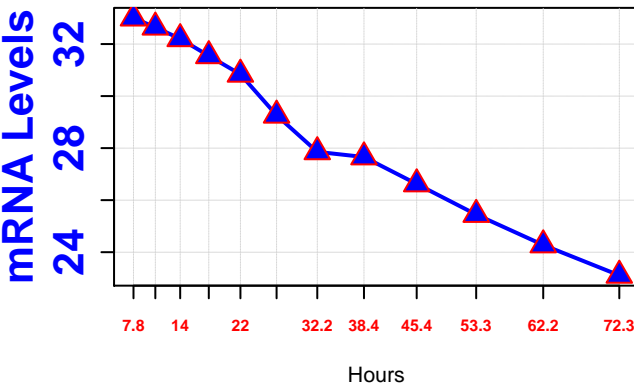
3812: FOL3
YMR113W
ORF



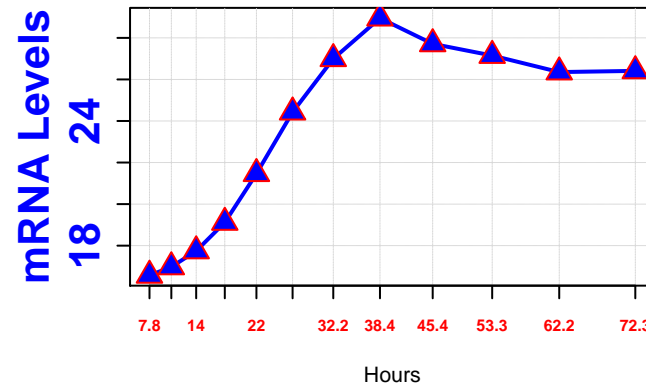
3878: GCV2
YMR189W
ORF



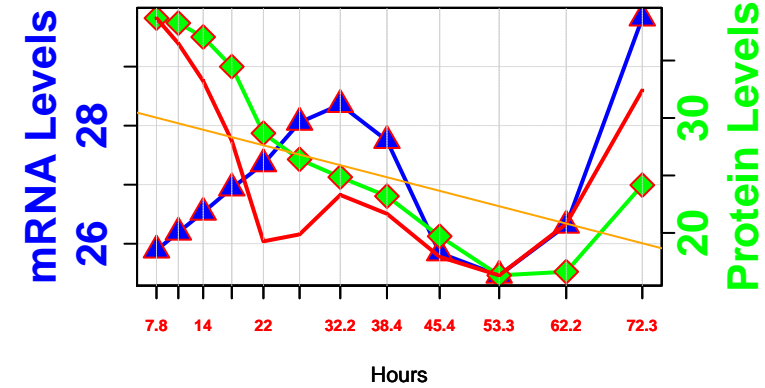
3968: ABZ2
YMR289W
ORF



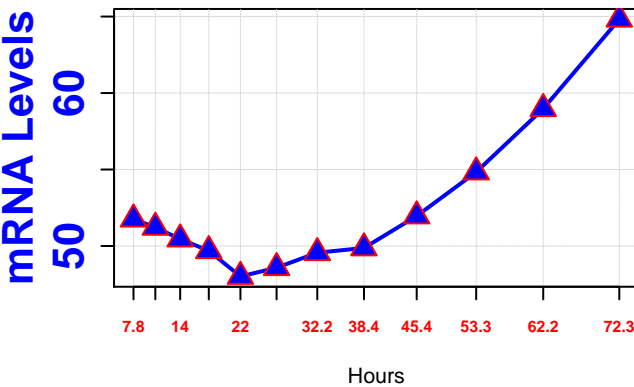
4316: ABZ1
YNR033W
ORF



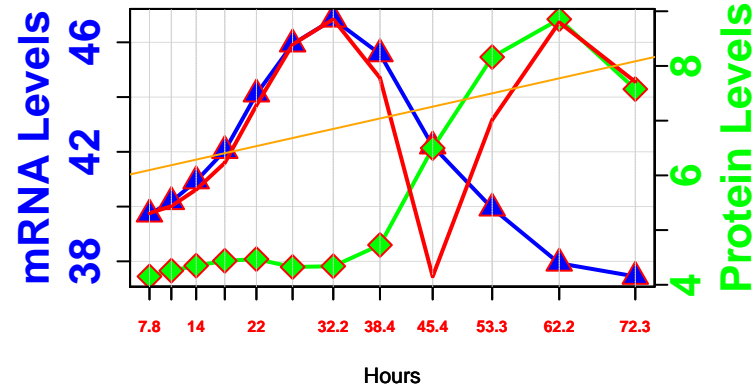
4545: CDC21
YOR074C
ORF

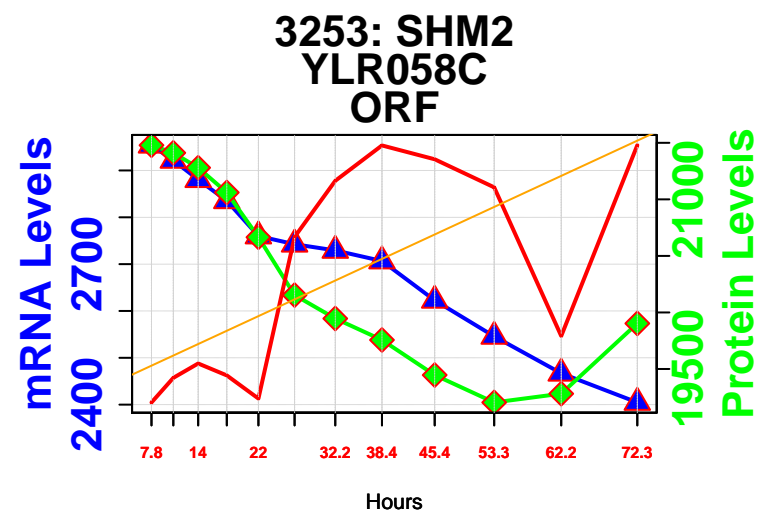
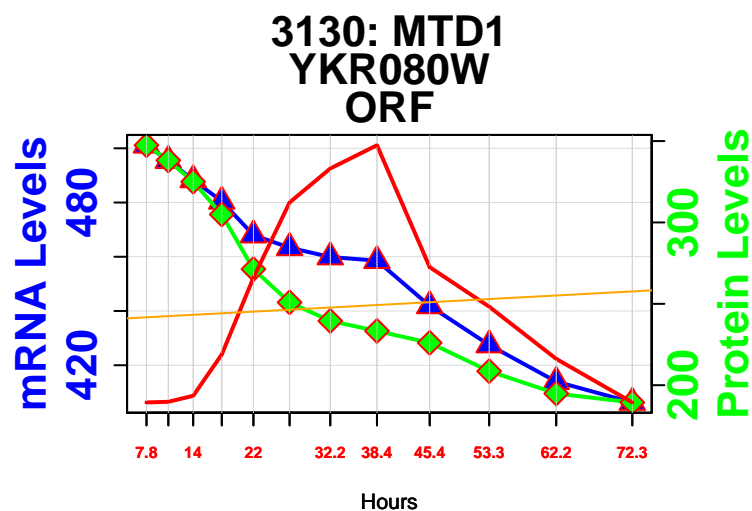
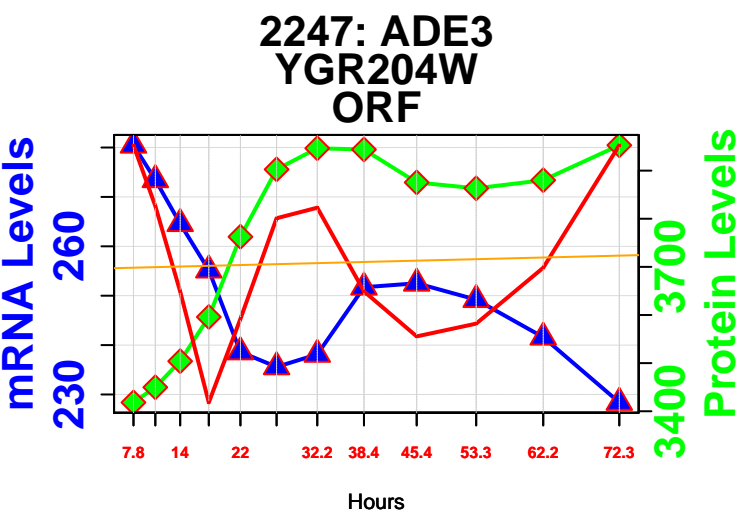
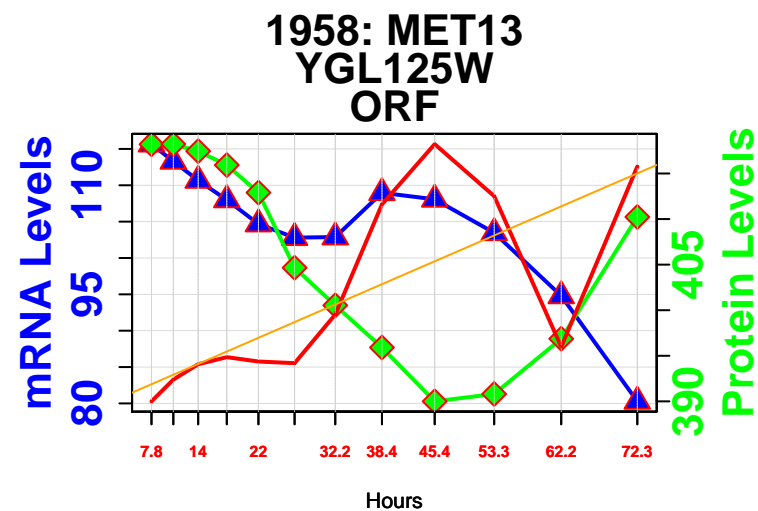
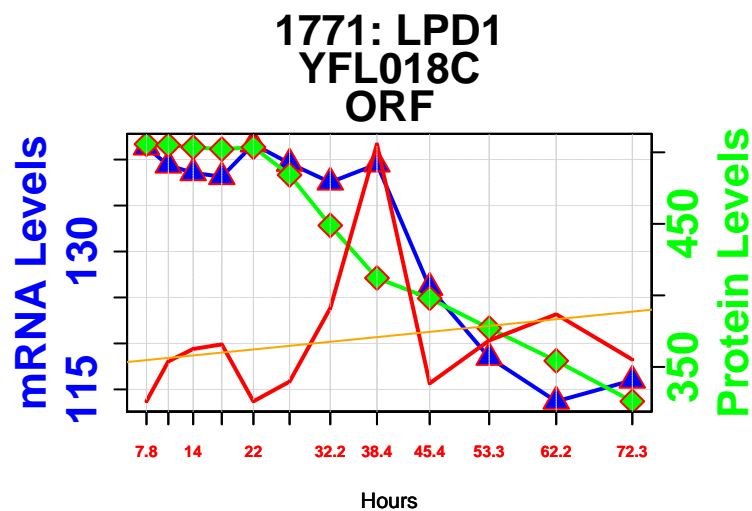
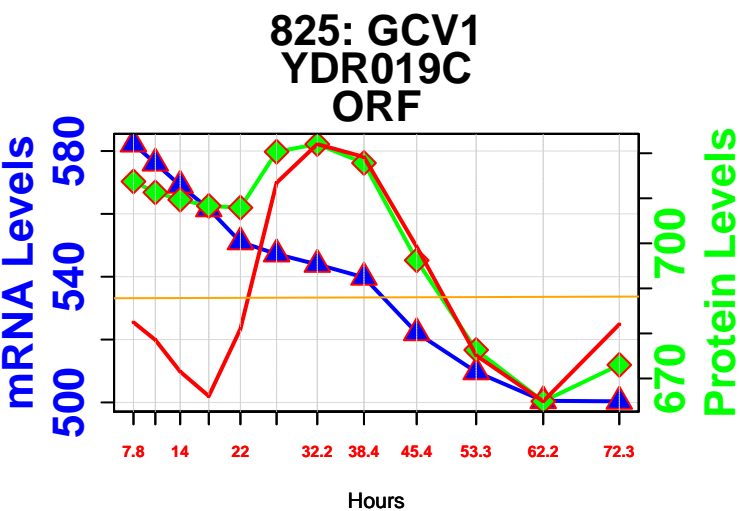
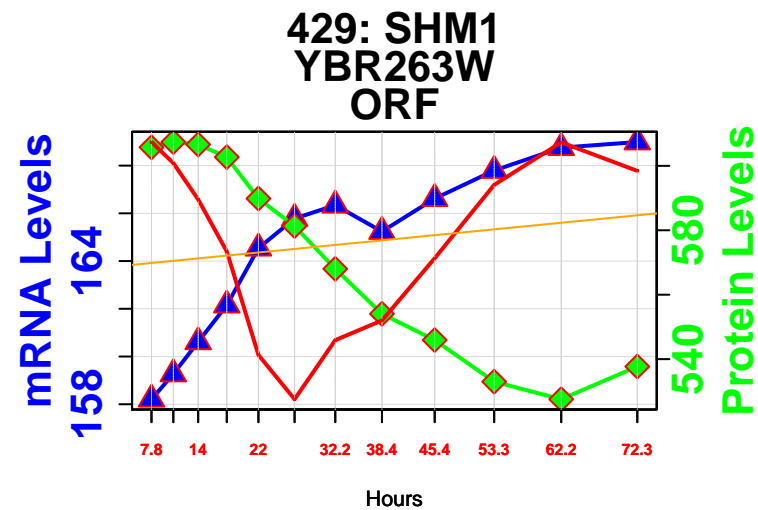
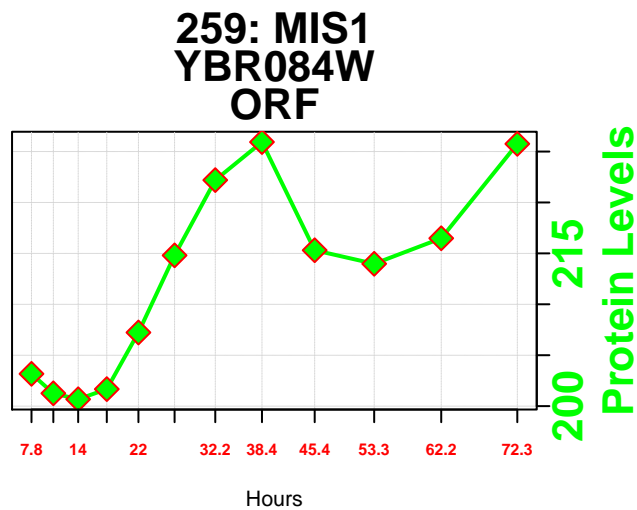
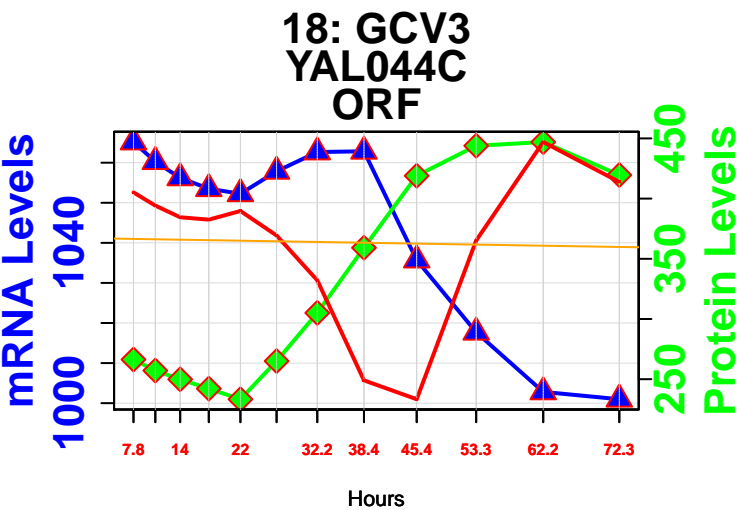


4684: DFR1
YOR236W
ORF



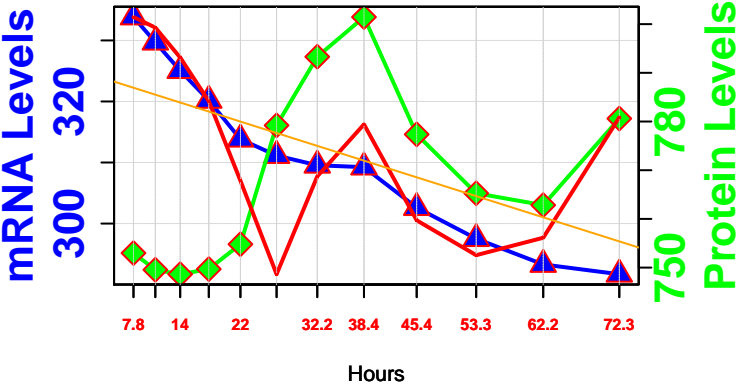
5034: MET12
YPL023C
ORF



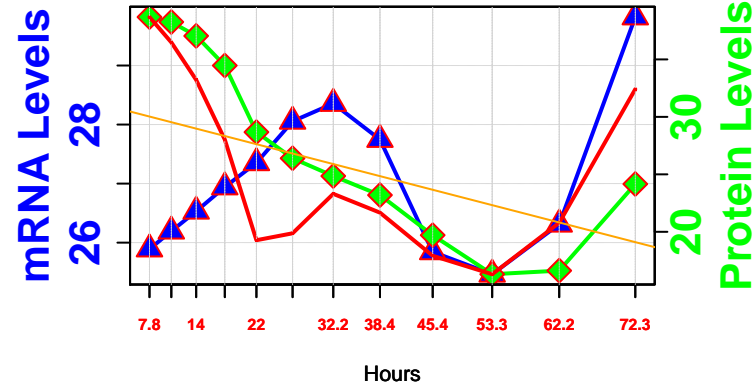


folate interconversions

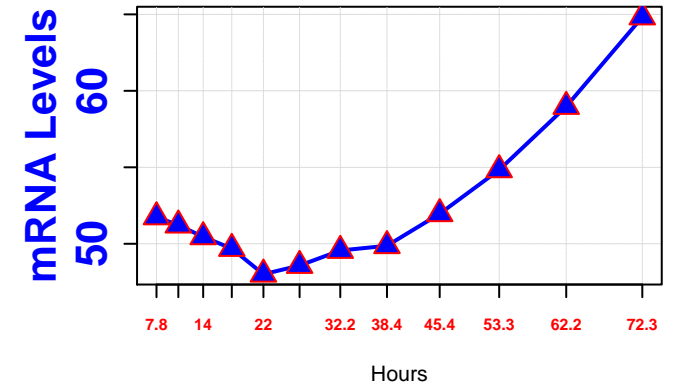
3878: GCV2
YMR189W
ORF



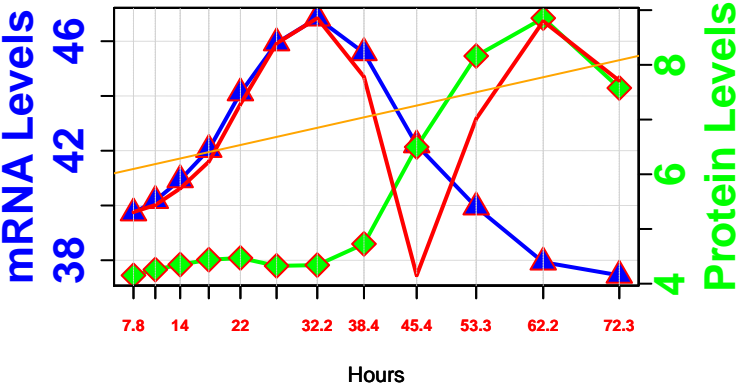
4545: CDC21
YOR074C
ORF

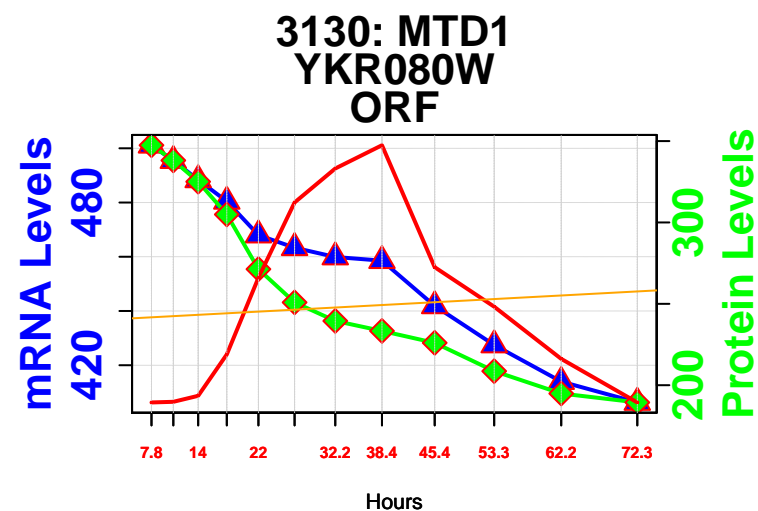
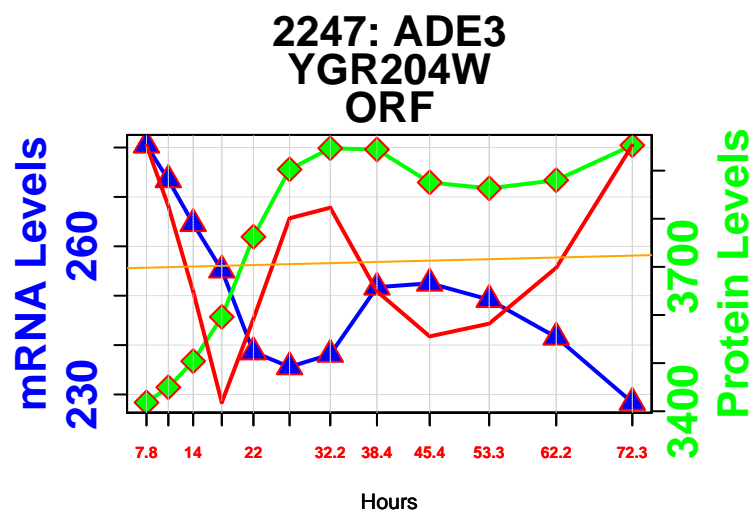
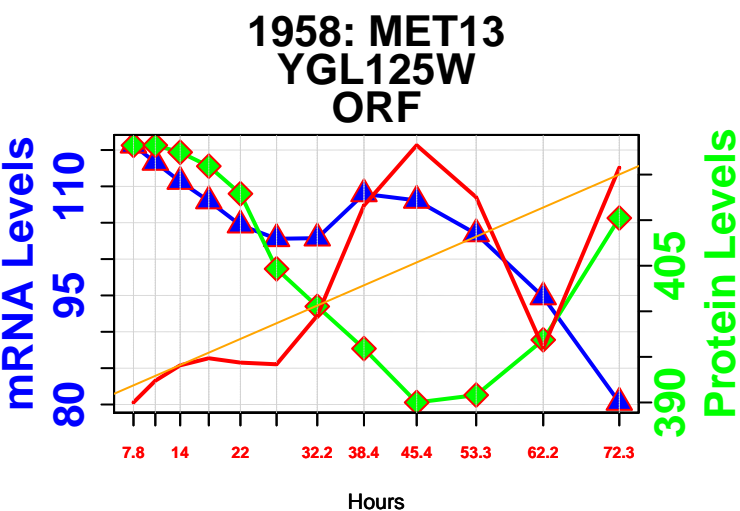
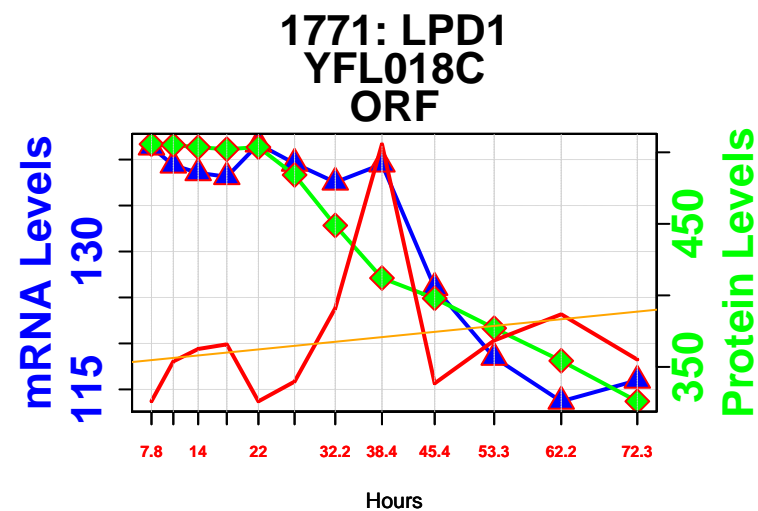
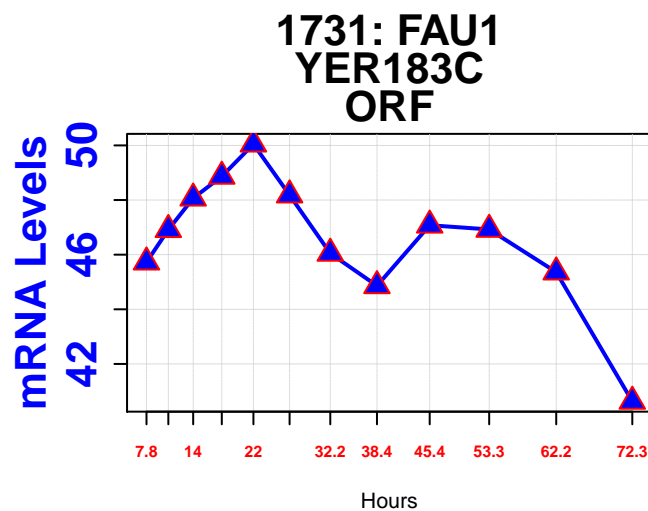
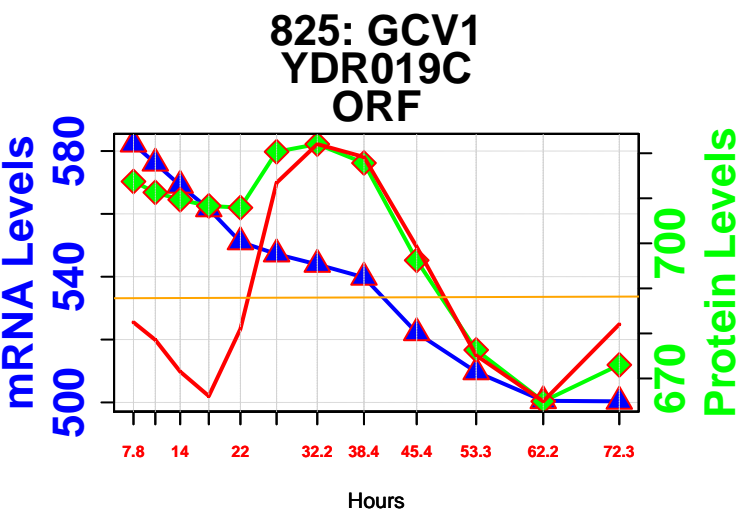
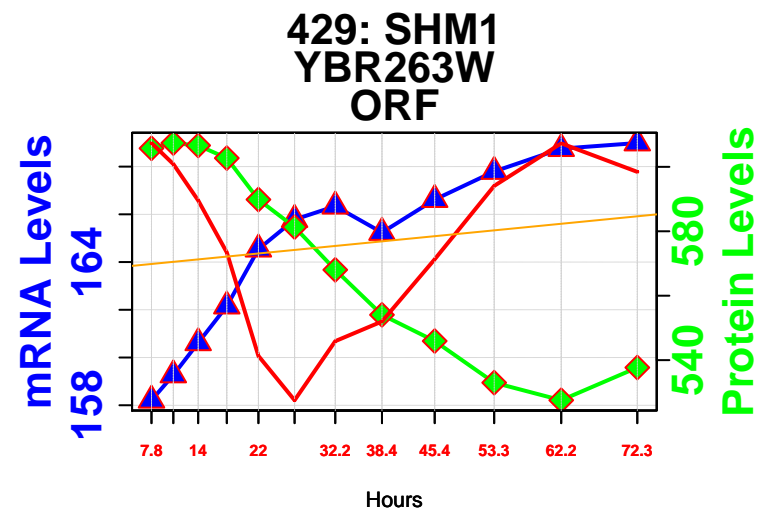
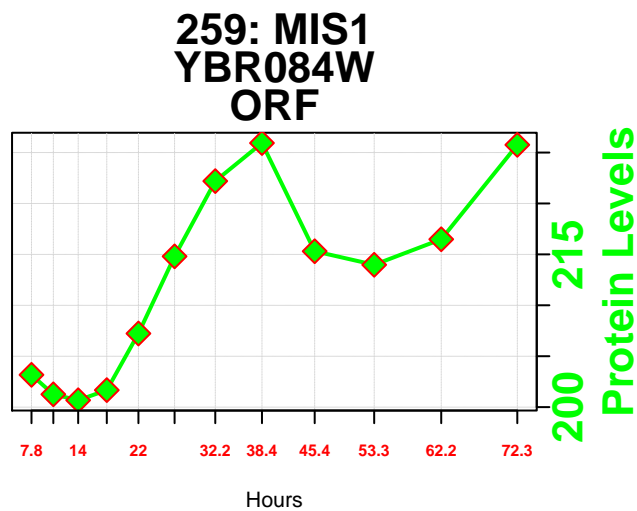
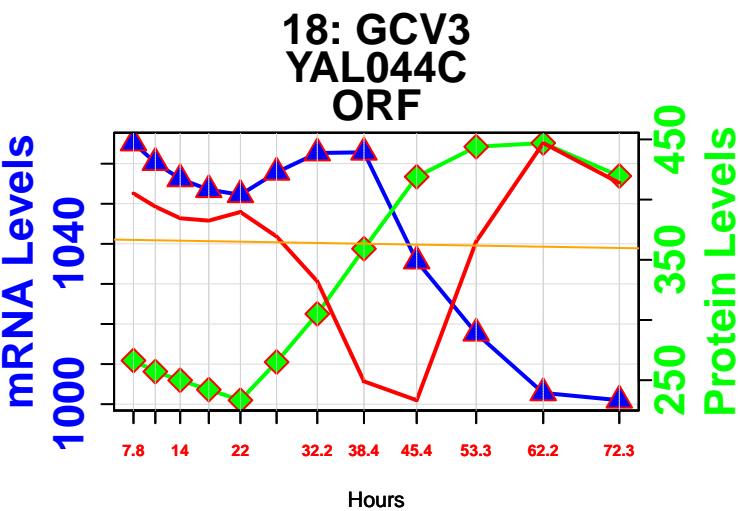


4684: DFR1
YOR236W
ORF



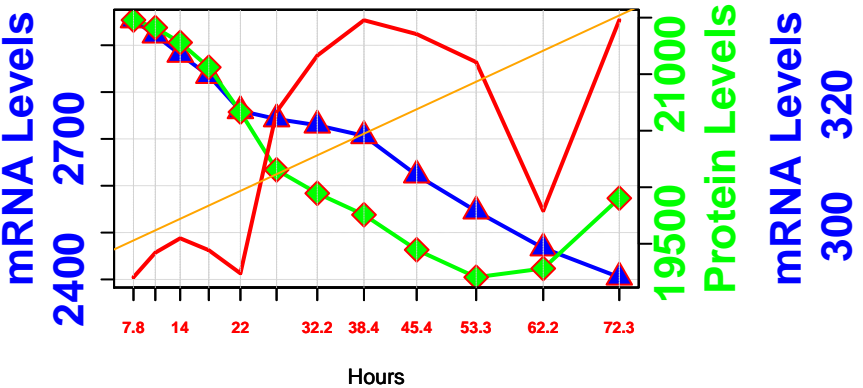
5034: MET12
YPL023C
ORF



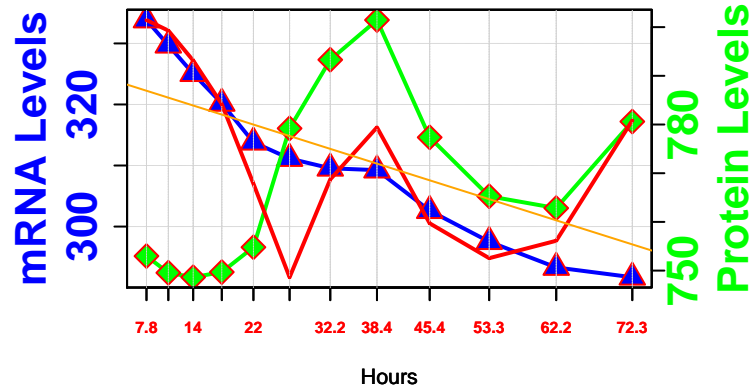


folate transformations

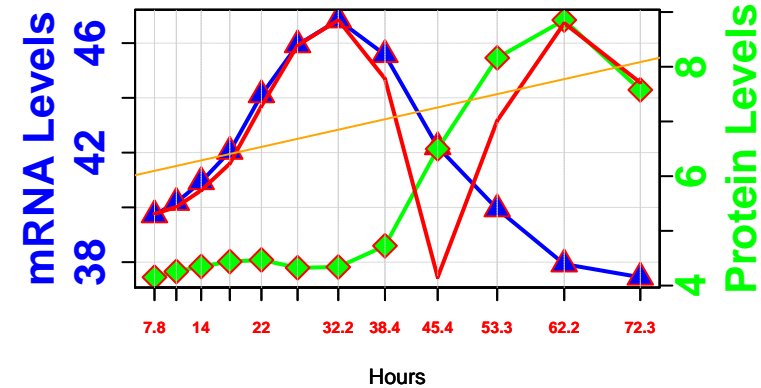
3253: SHM2
YLR058C
ORF

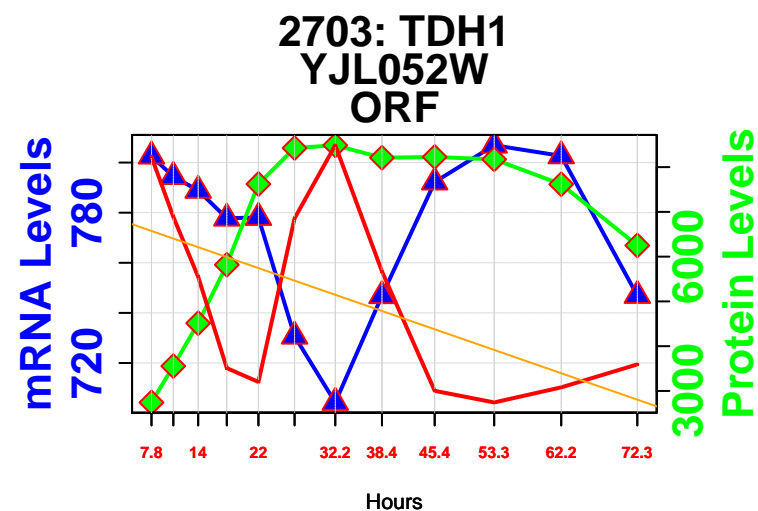
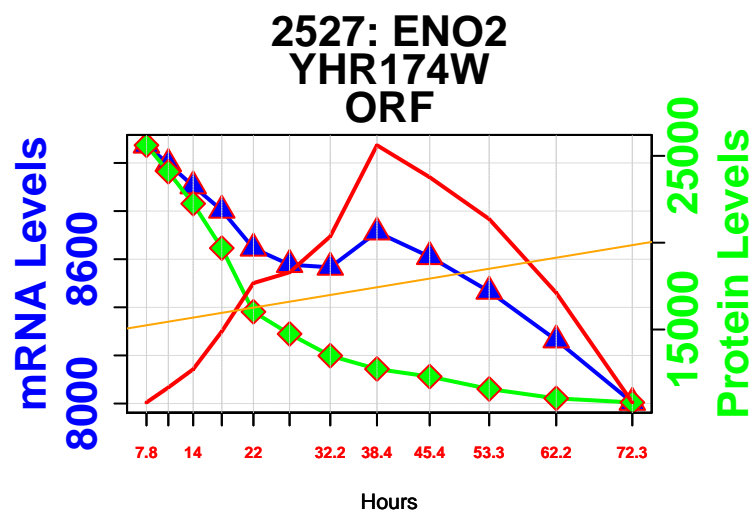
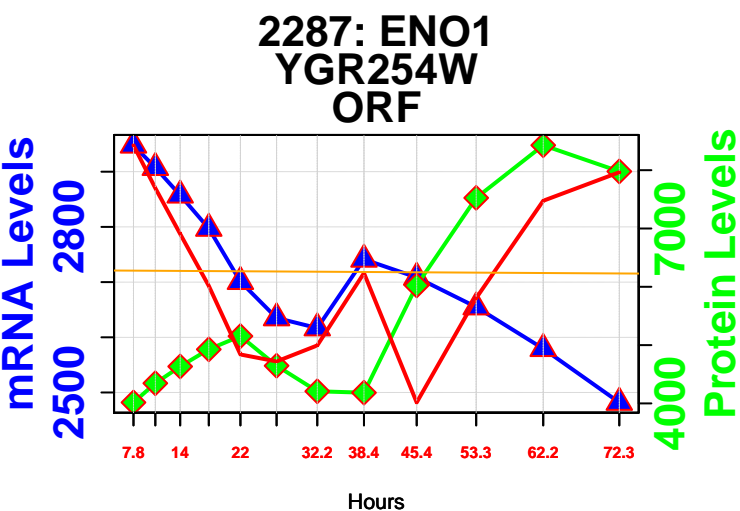
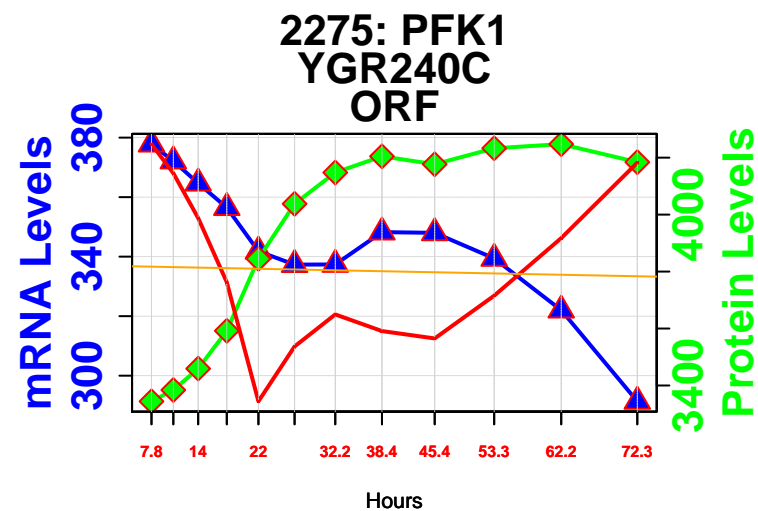
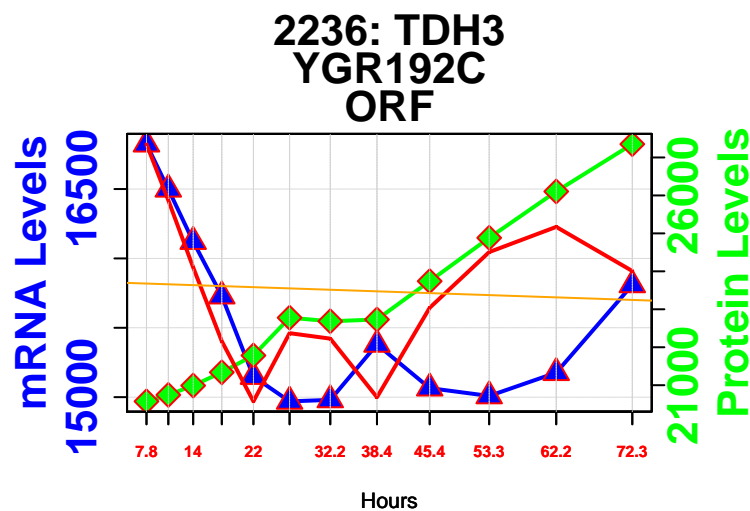
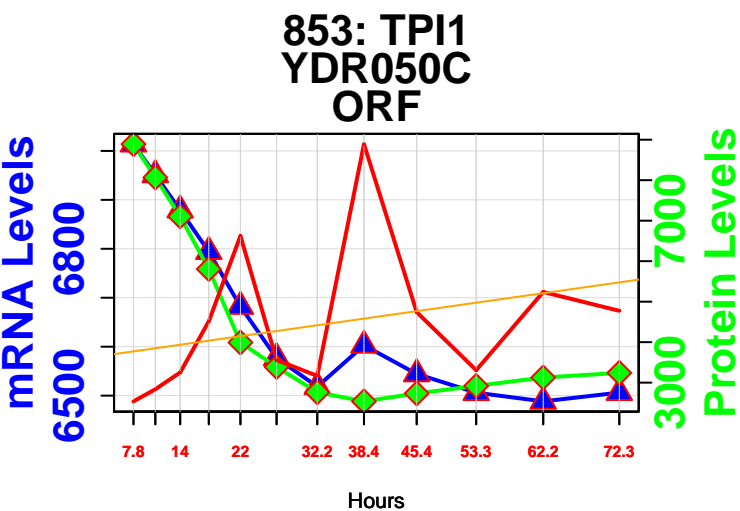
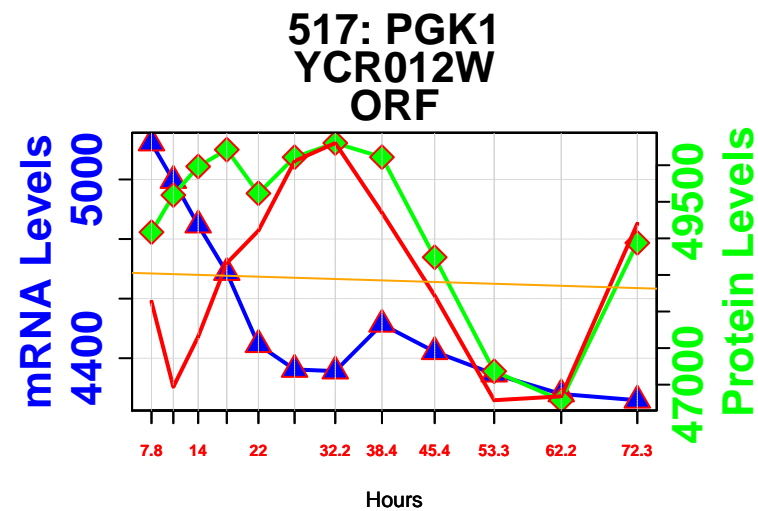
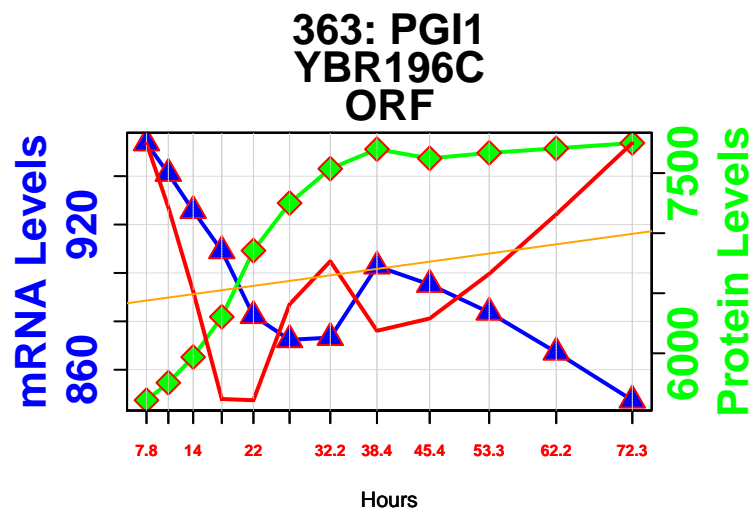
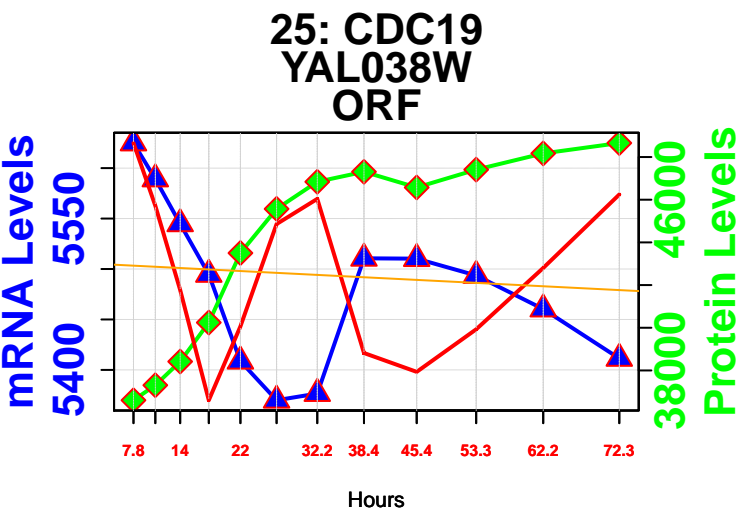


3878: GCV2
YMR189W
ORF



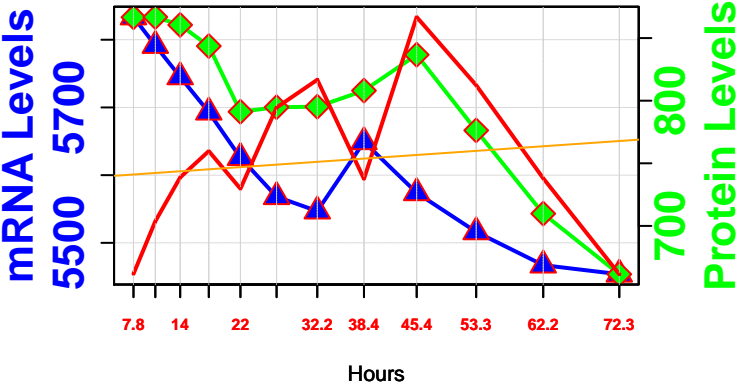
5034: MET12
YPL023C
ORF



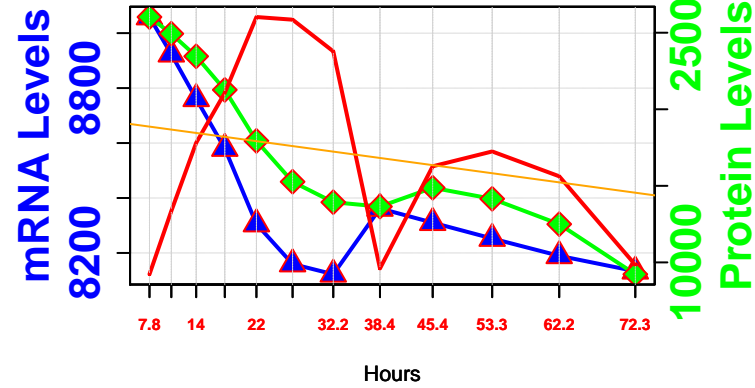


glycolysis

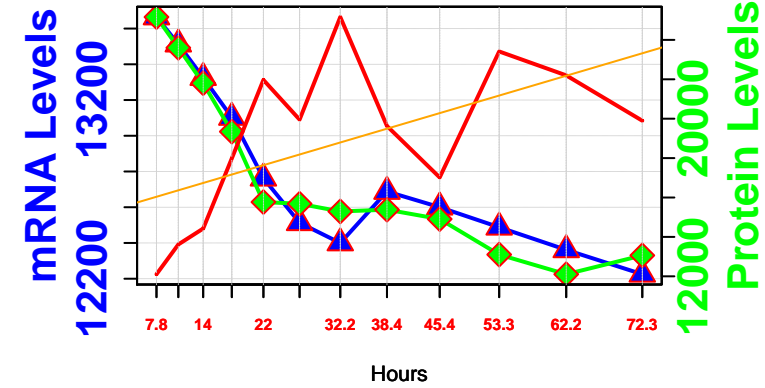
2749: TDH2
YJR009C
ORF



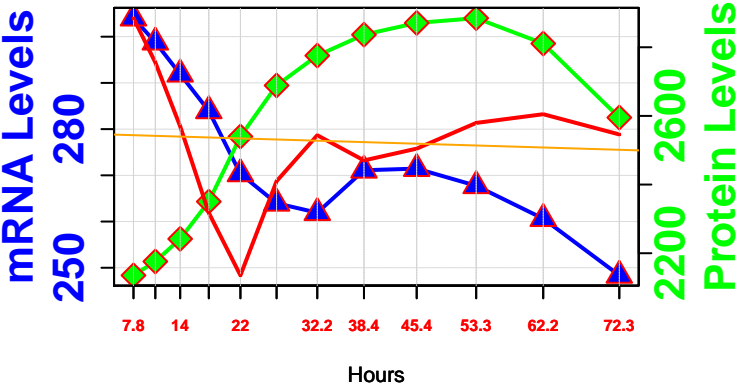
2937: GPM1
YKL152C
ORF



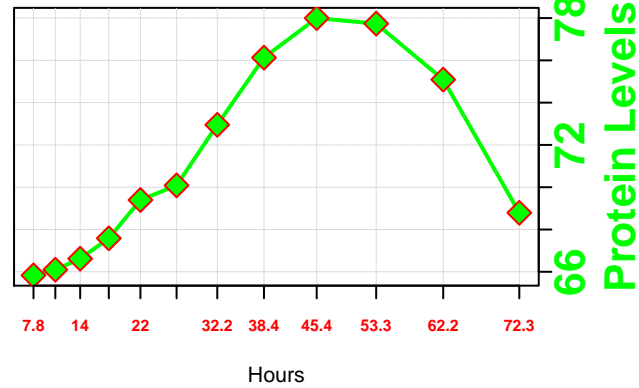
3008: FBA1
YKL060C
ORF



3894: PFK2
YMR205C
ORF

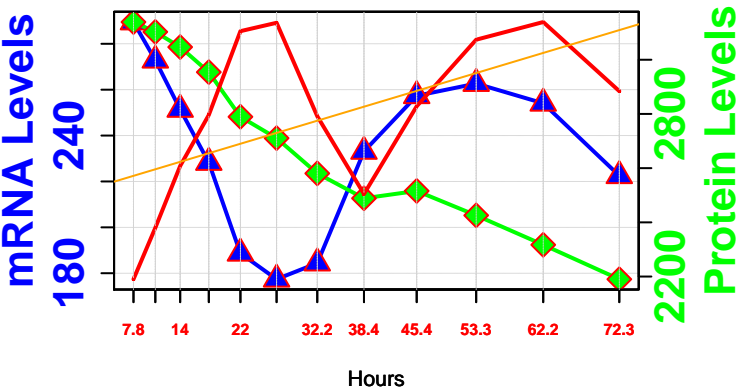


4784: PYK2
YOR347C
ORF

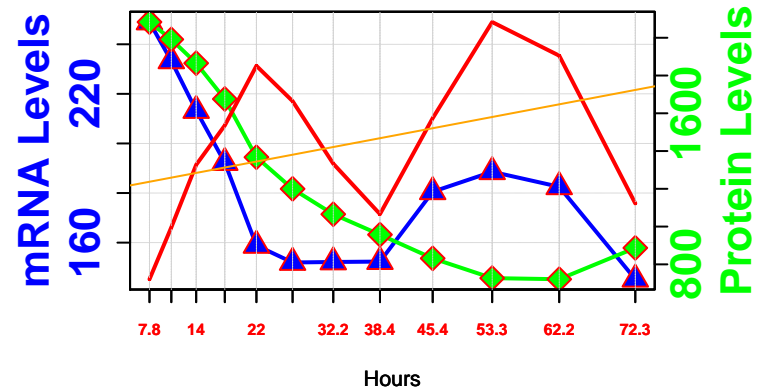


cysteine biosynthesis from homocysteine

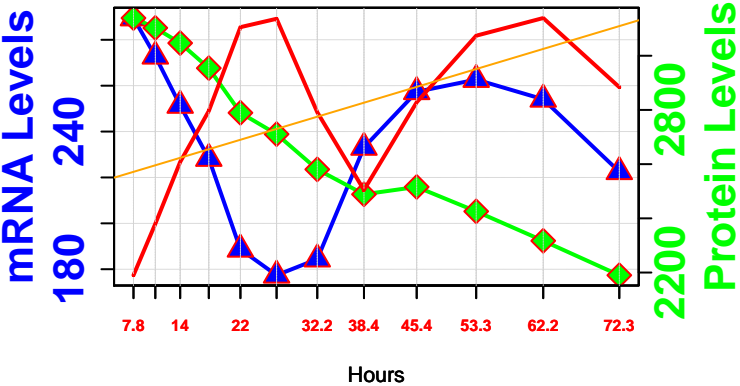
49: CYS3
YAL012W
ORF



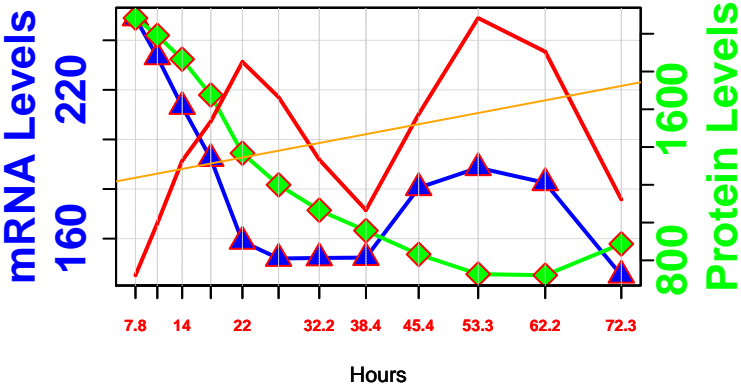
2202: CYS4
YGR155W
ORF



49: CYS3
YAL012W
ORF

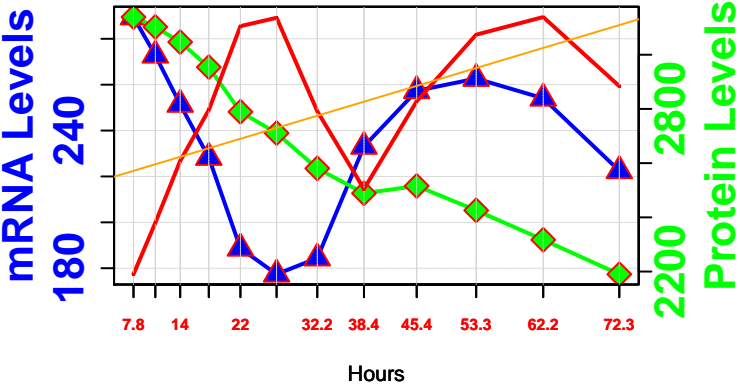


2202: CYS4
YGR155W
ORF

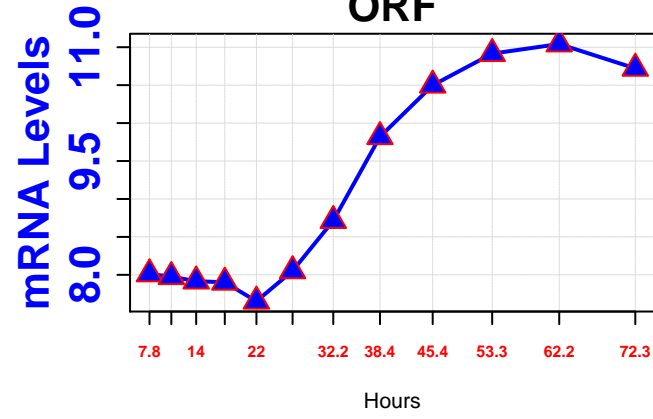


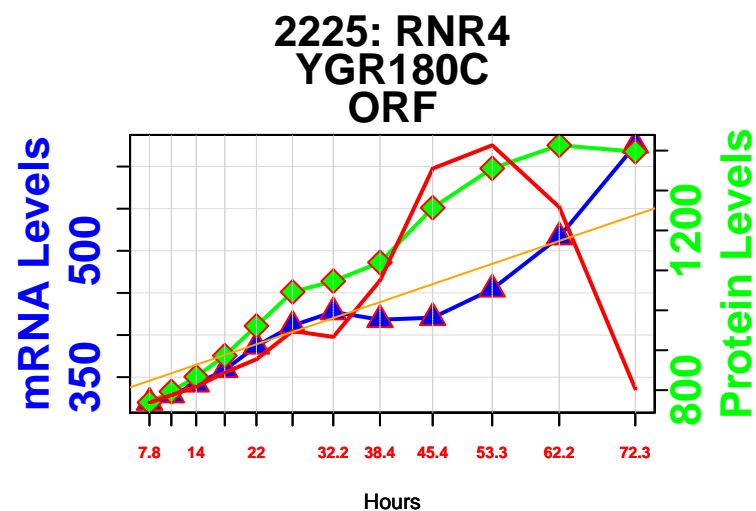
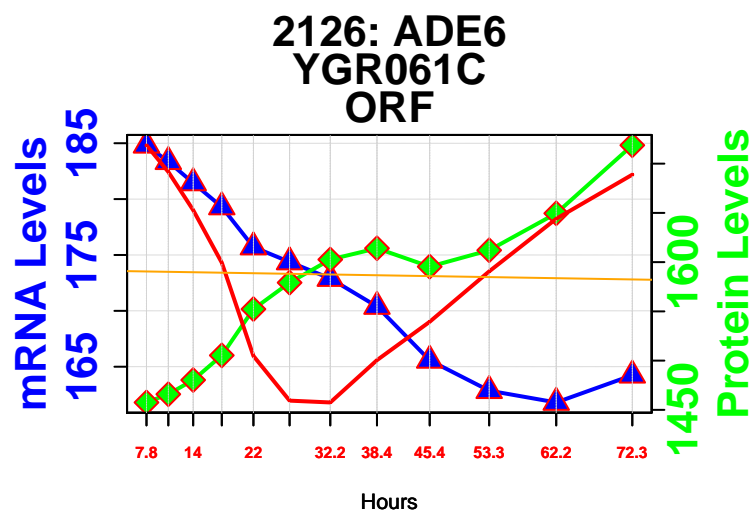
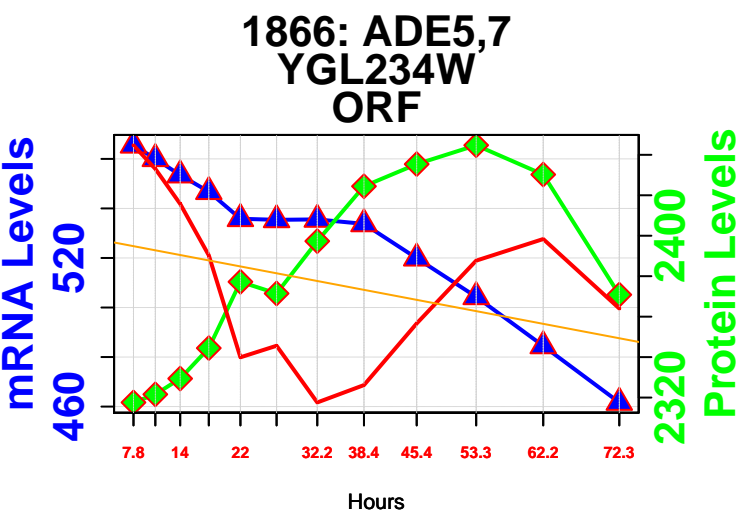
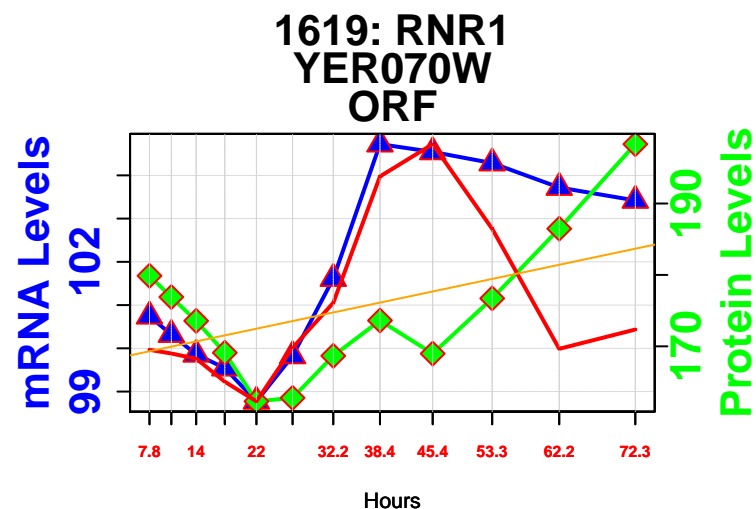
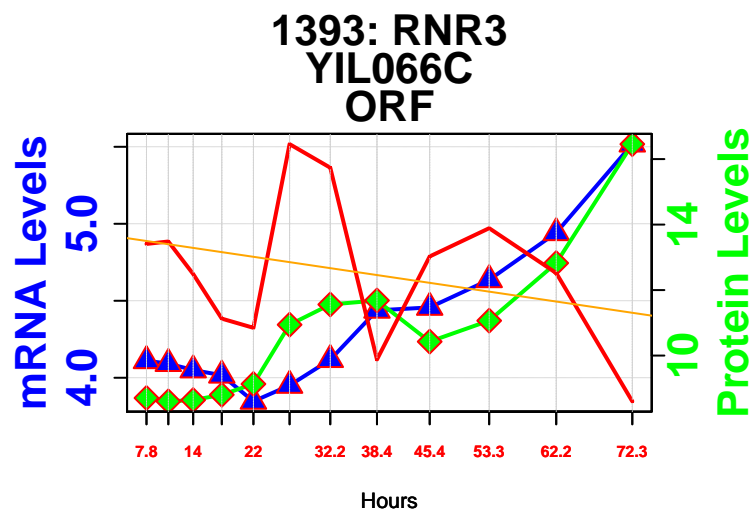
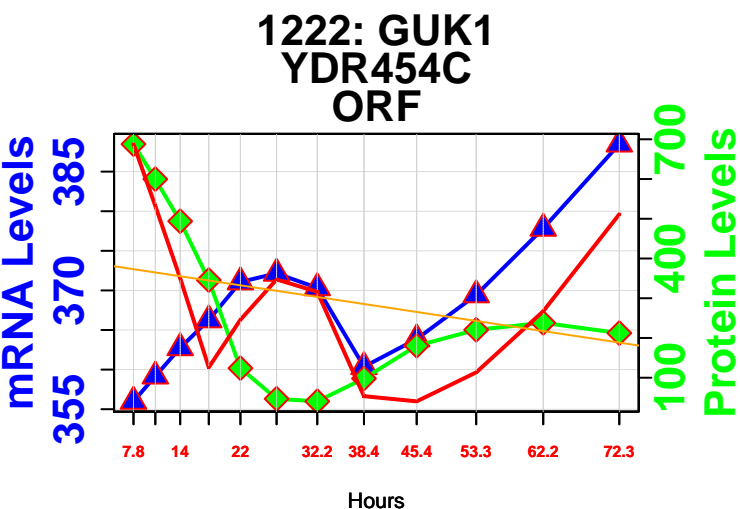
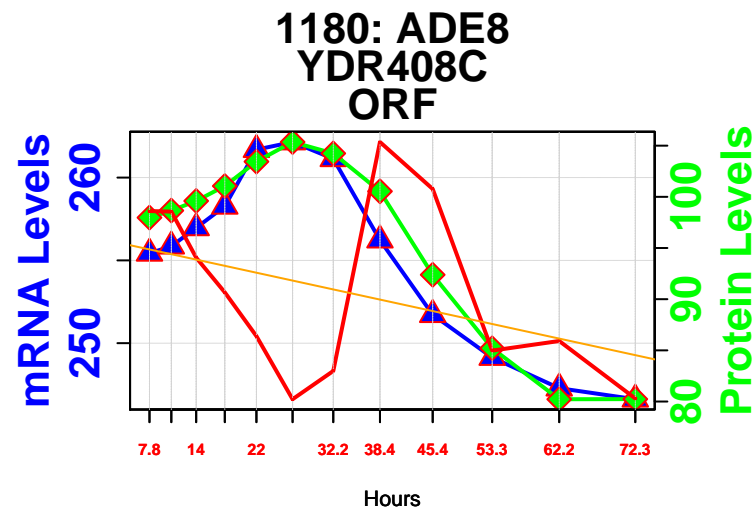
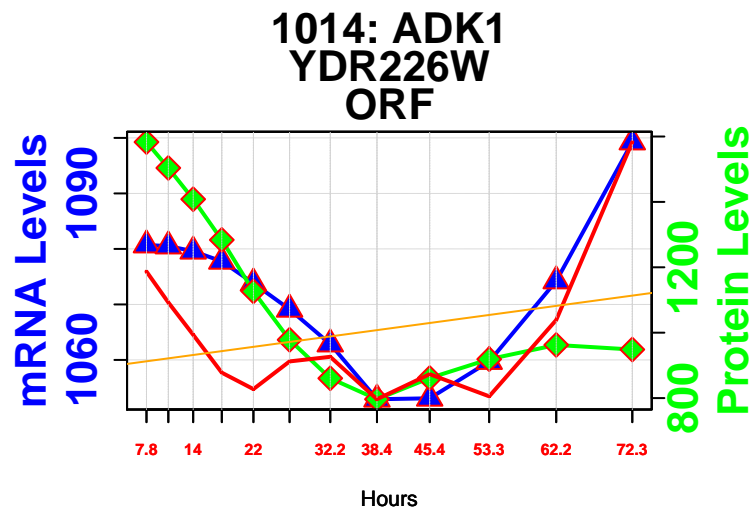
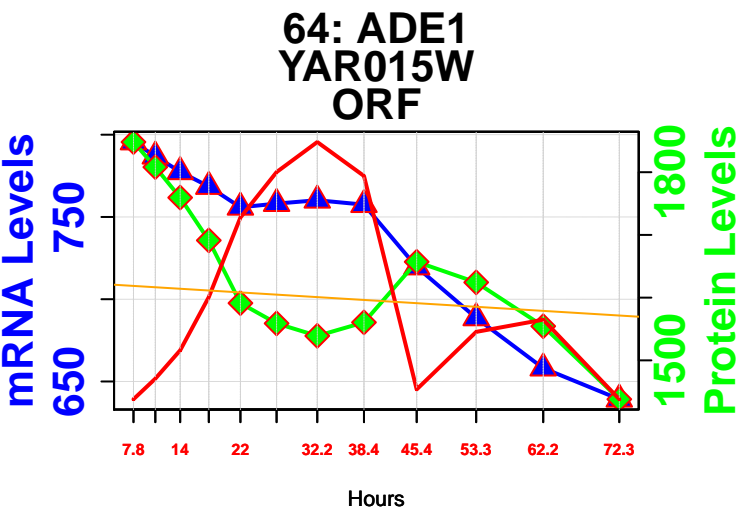
threonine degradation

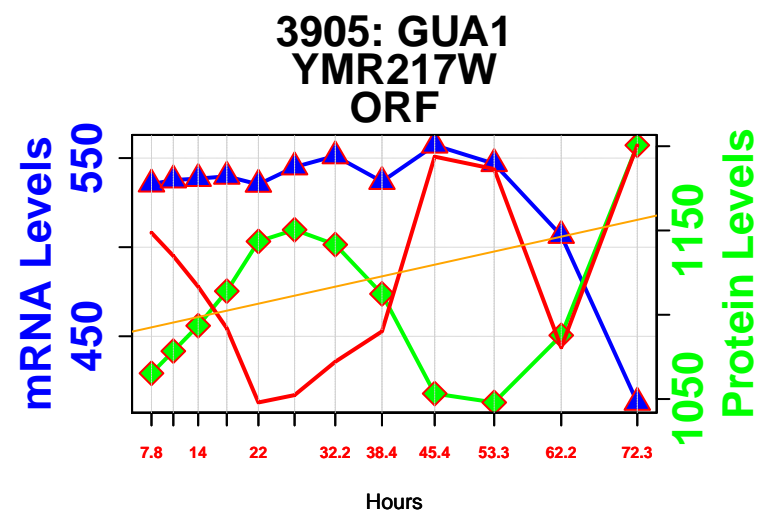
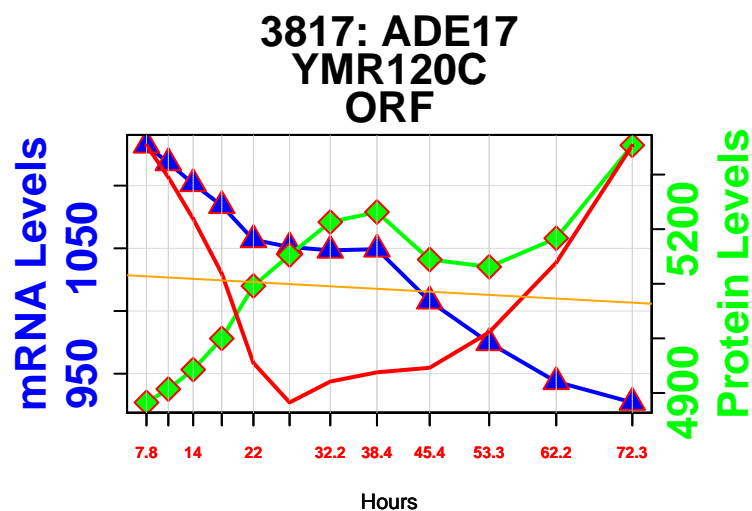
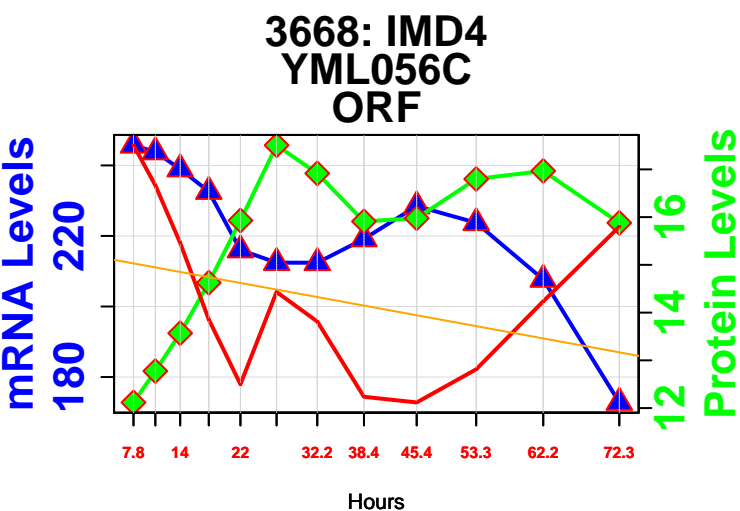
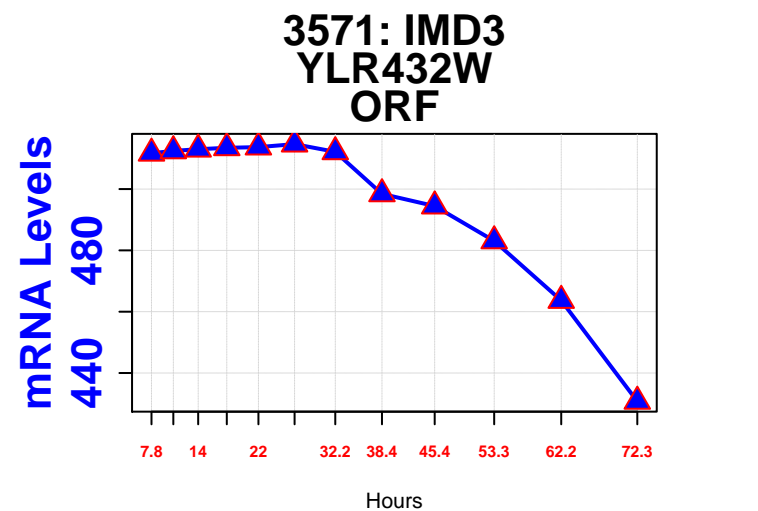
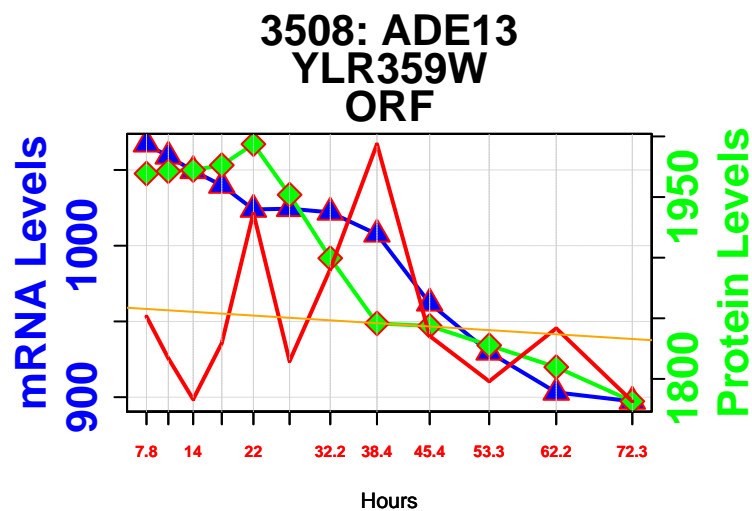
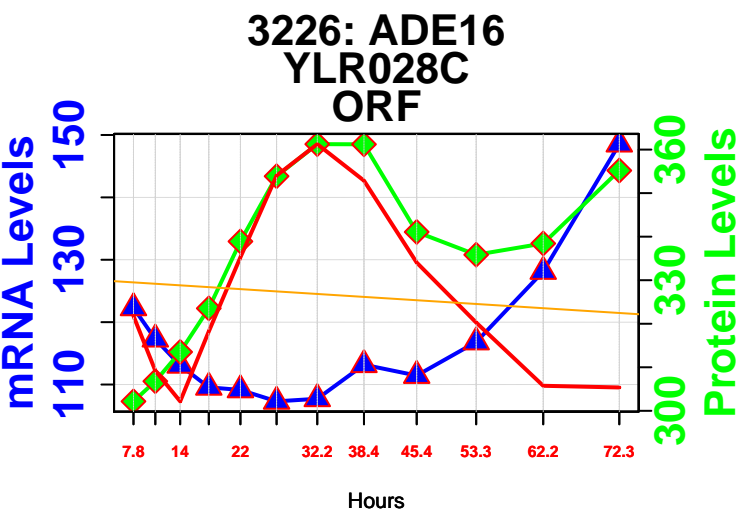
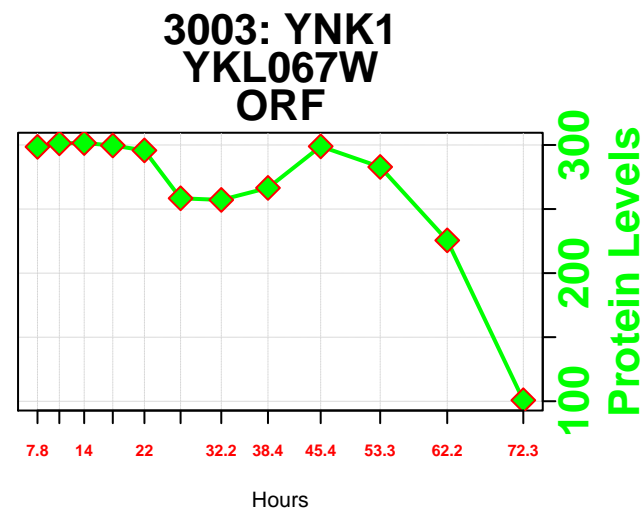
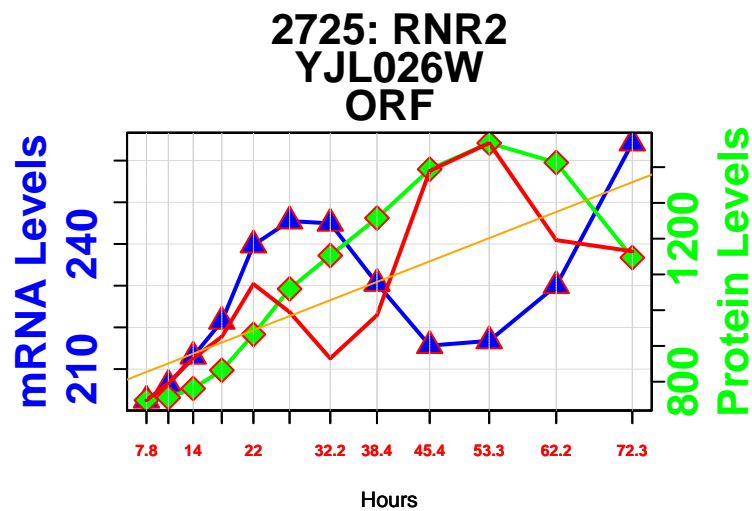
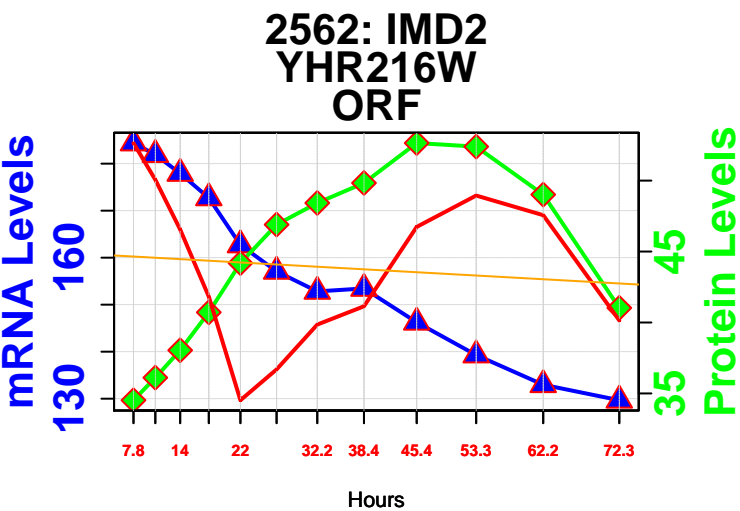
49: CYS3
YAL012W
ORF



456: CHA1
YCL064C
ORF

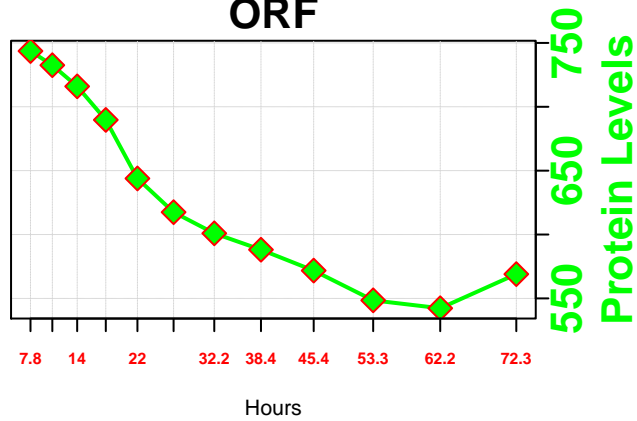




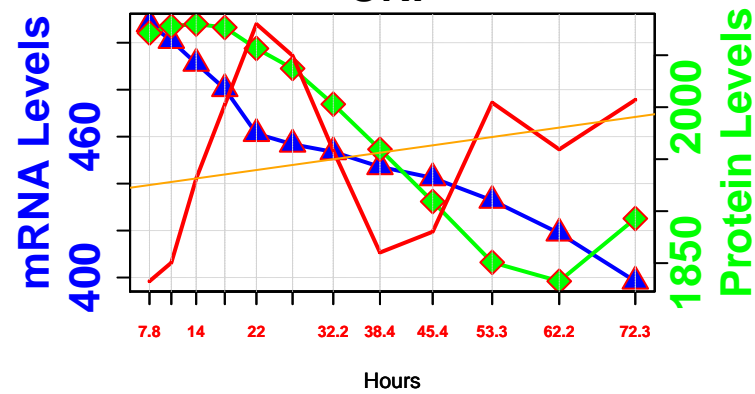


de novo biosynthesis of purine nucleotides

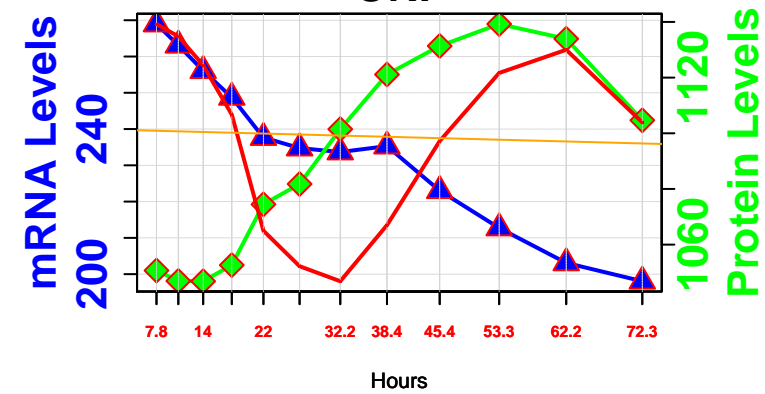
3979: ADE4
YMR300C
ORF



4105: ADE12
YNL220W
ORF

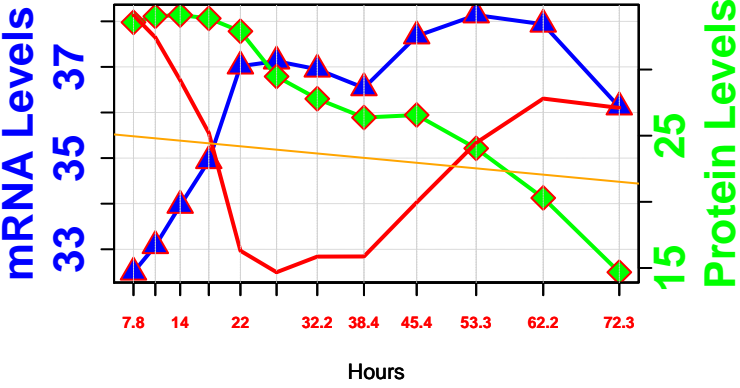


4591: ADE2
YOR128C
ORF

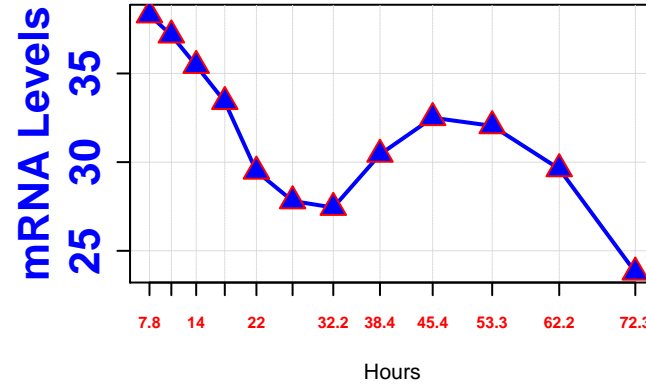


tryptophan degradation via kynurenine

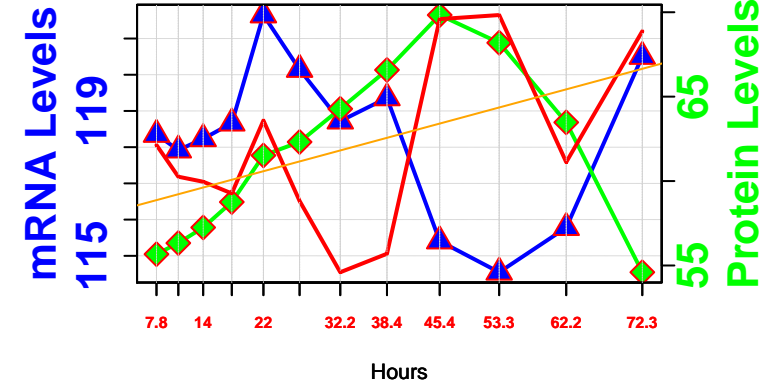
89: BNA4
YBL098W
ORF



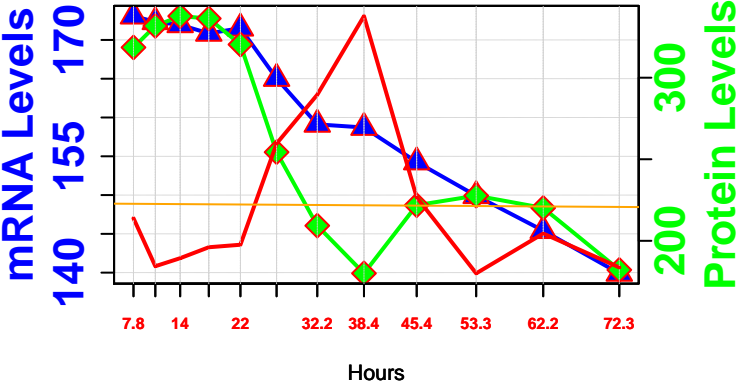
1200: BNA7
YDR428C
ORF



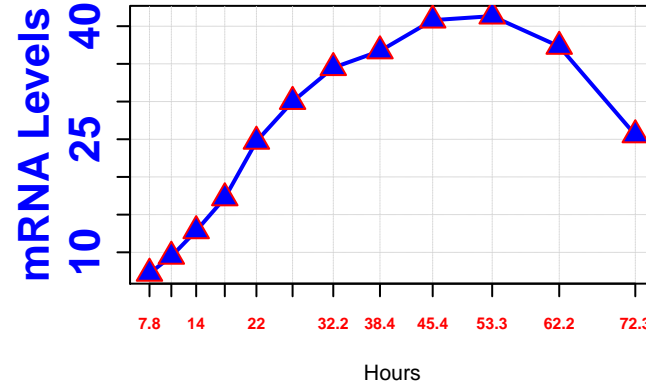
1836: BNA6
YFR047C
ORF



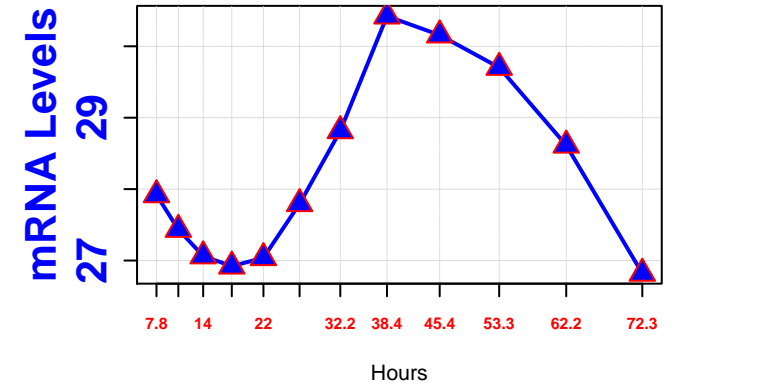
2764: BNA1
YJR025C
ORF

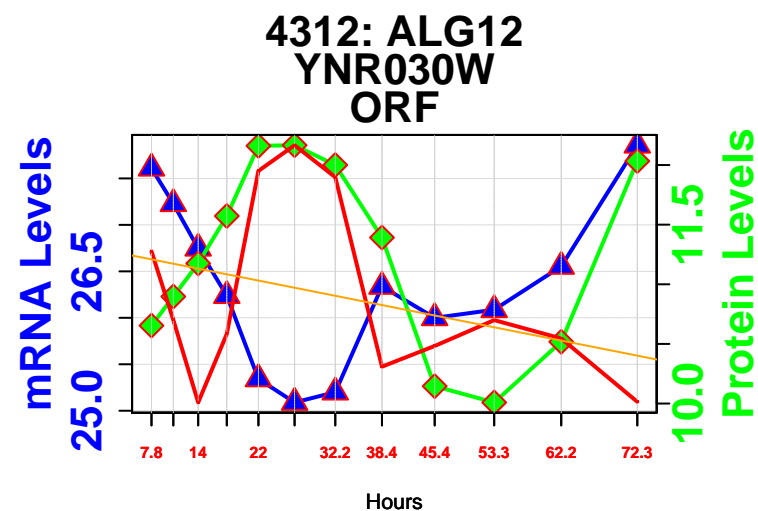
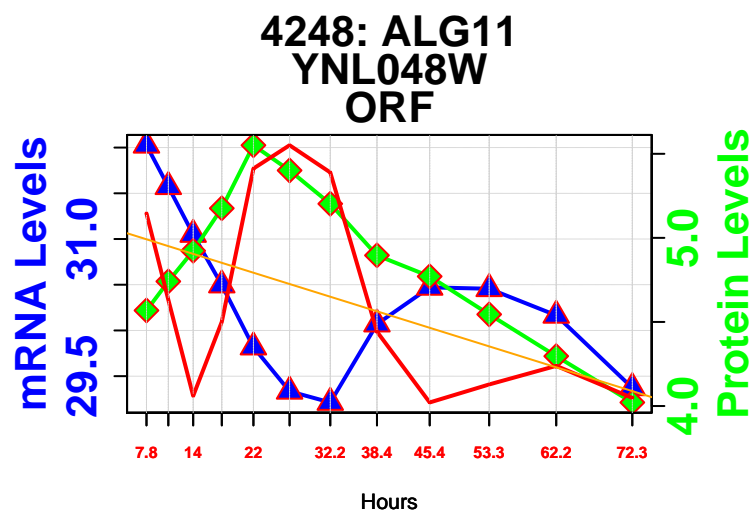
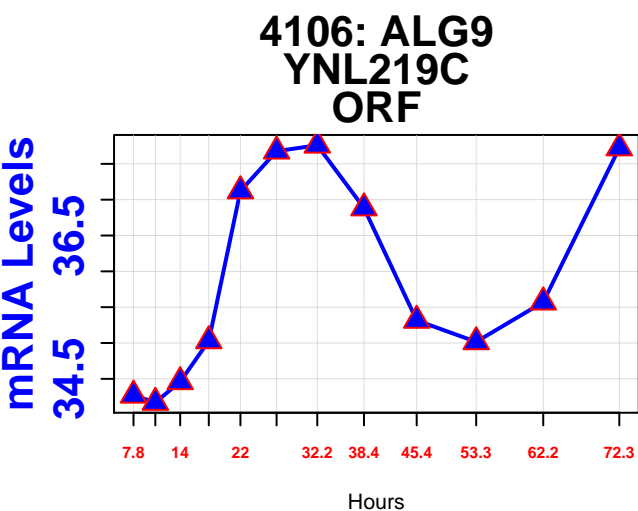
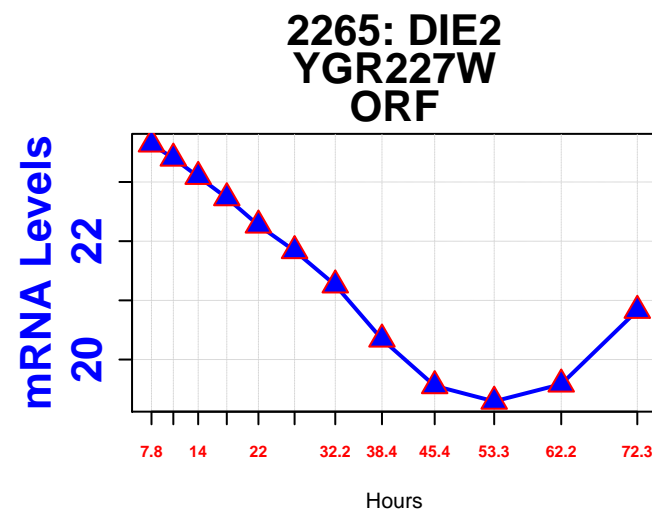
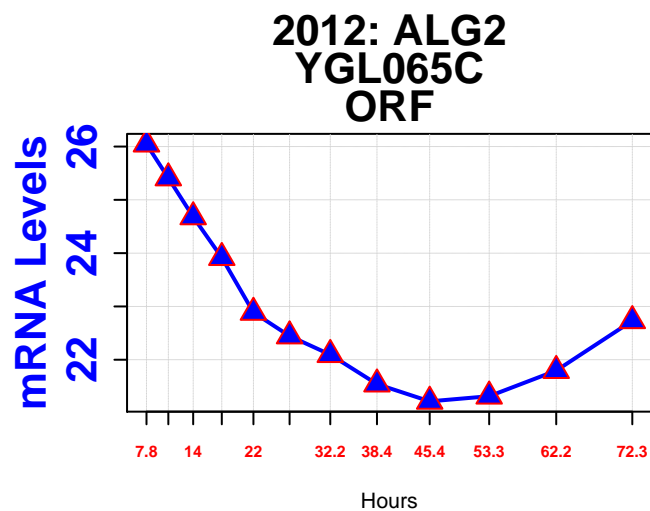
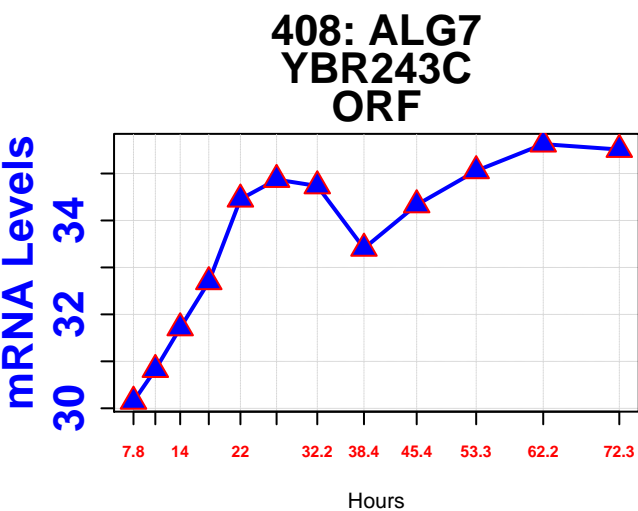
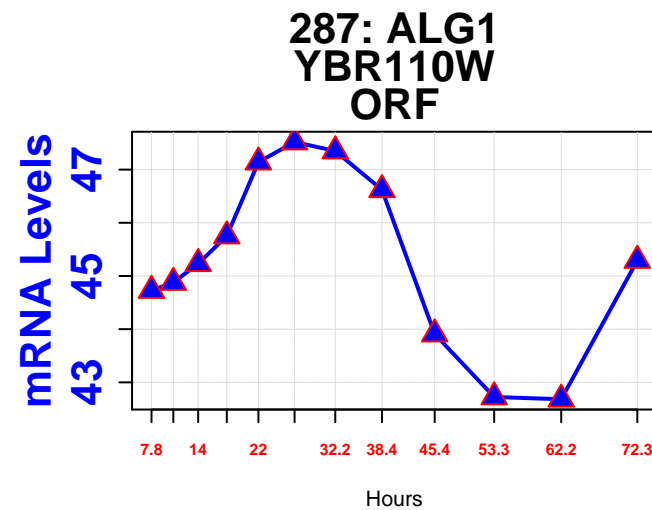
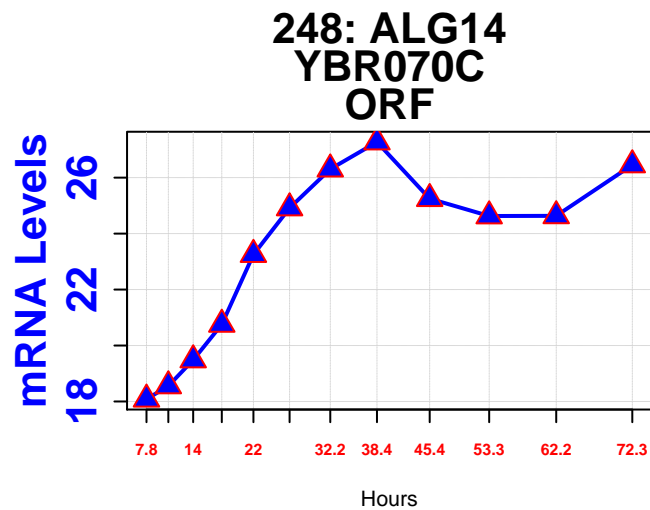
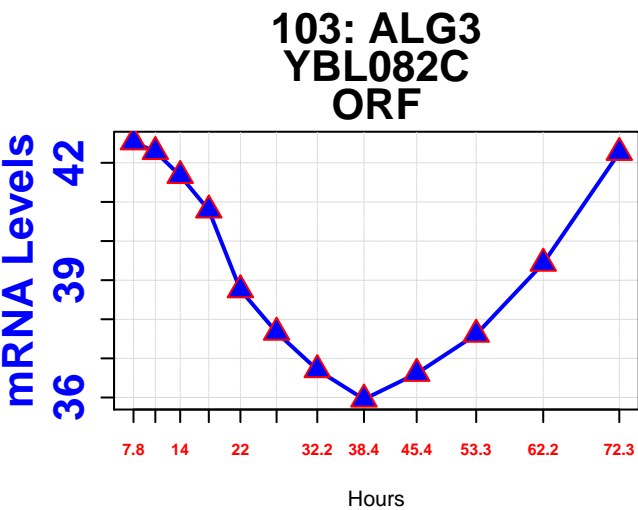


2807: BNA2
YJR078W
ORF



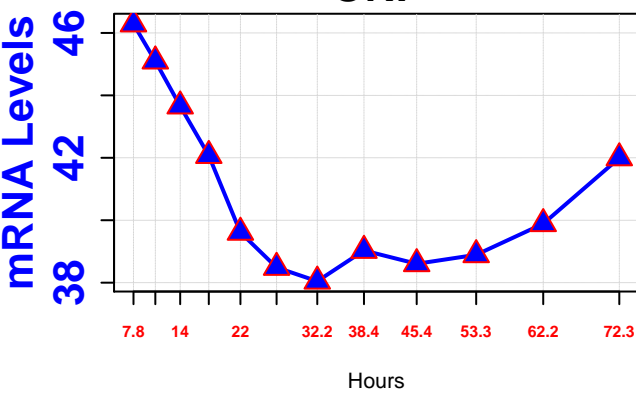
3396: BNA5
YLR231C
ORF



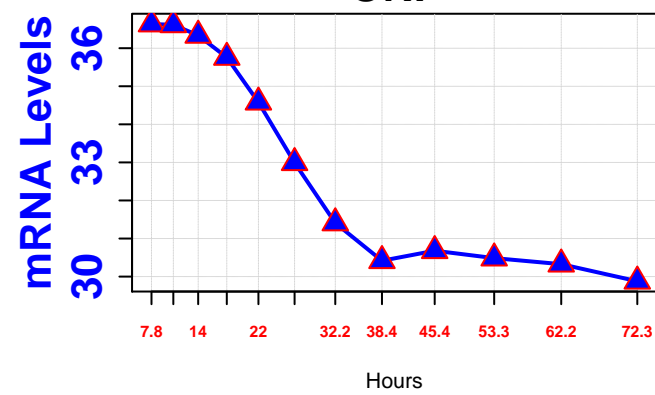


lipid-linked oligosaccharide biosynthesis

4485: ALG6
YOR002W
ORF

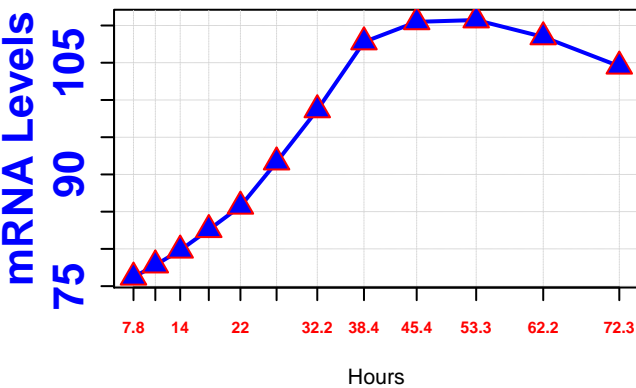


4538: ALG8
YOR067C
ORF

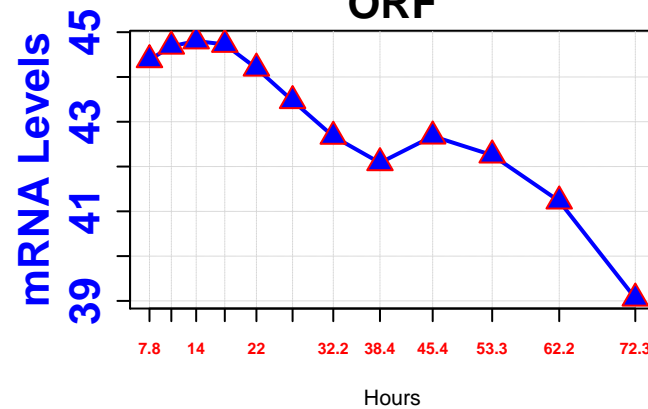


diphthamide biosynthesis

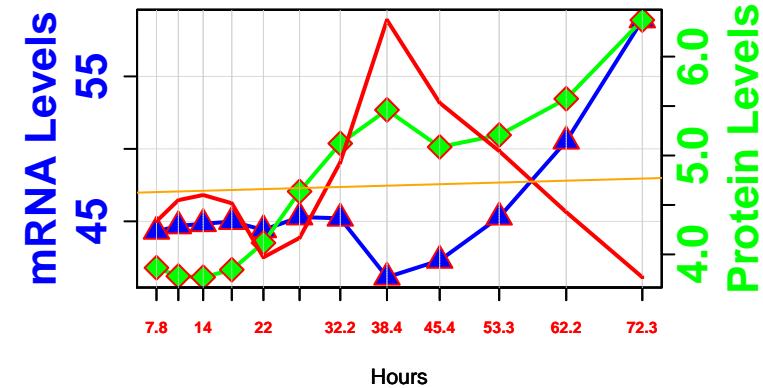
112: KTI11
YBL071W-A
ORF



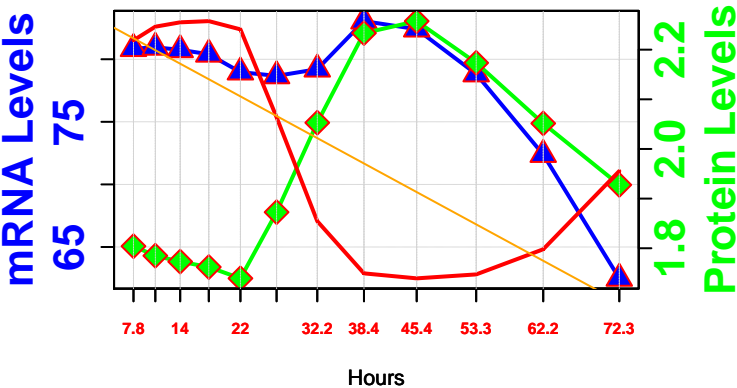
411: RRT2
YBR246W
ORF



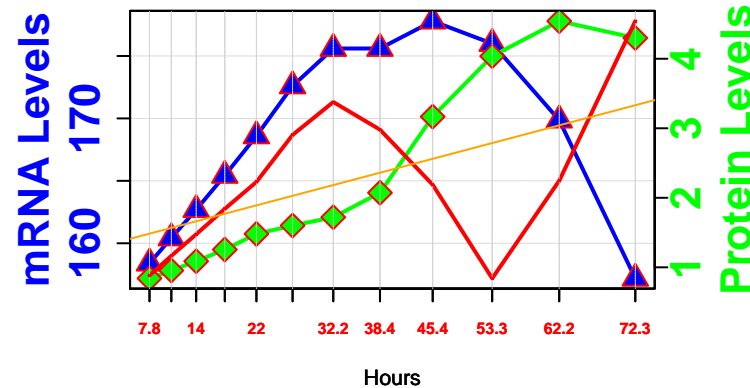
1364: DPH1
YIL103W
ORF



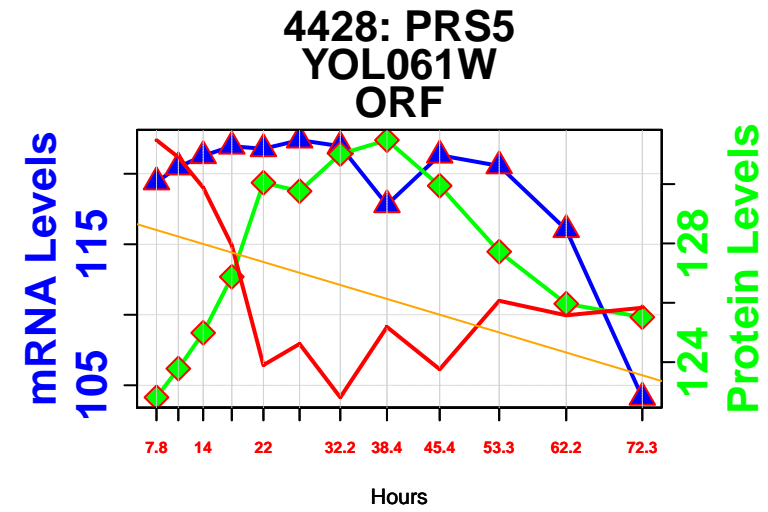
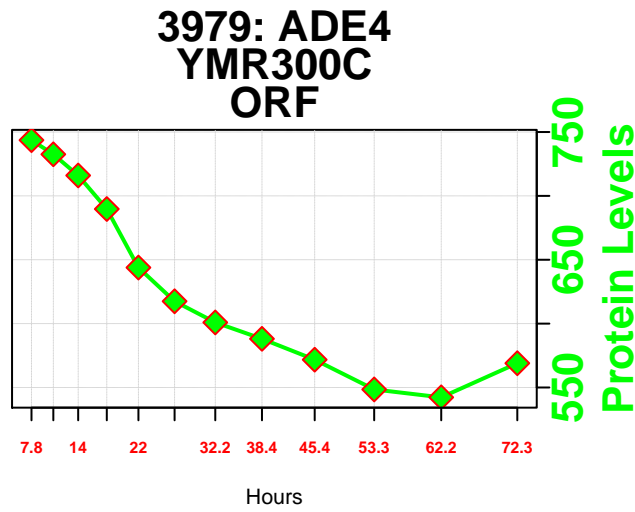
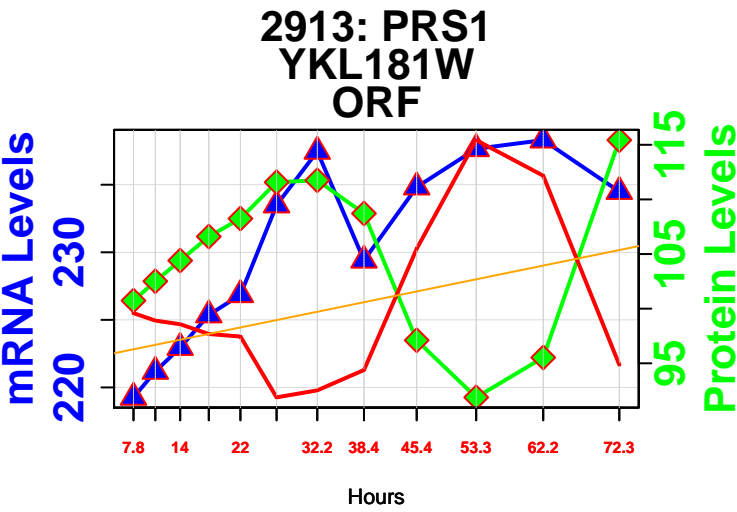
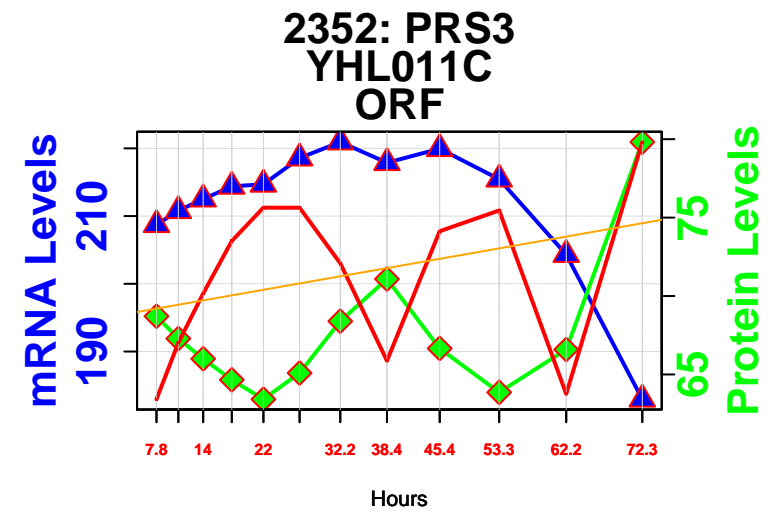
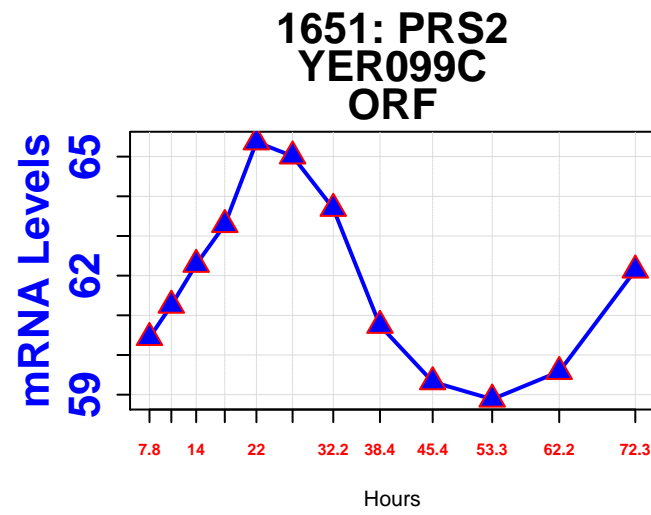
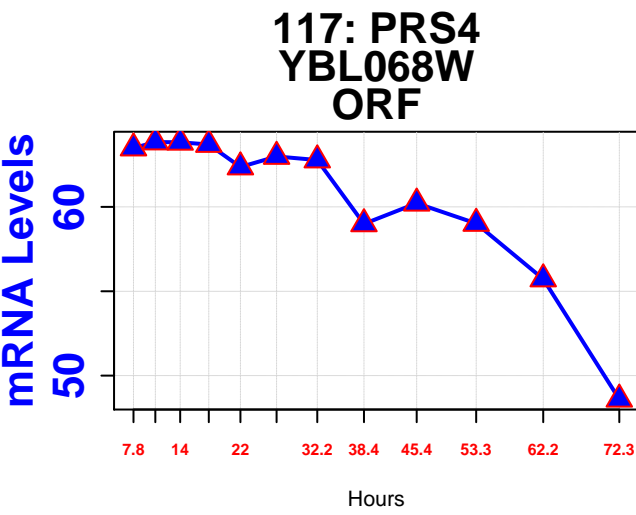
2905: DPH2
YKL191W
ORF



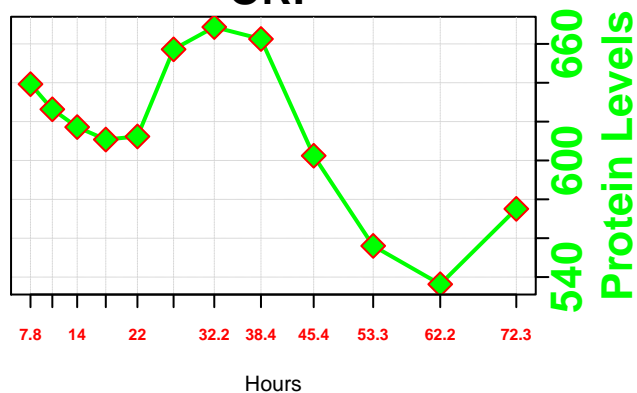
3348: DPH5
YLR172C
ORF



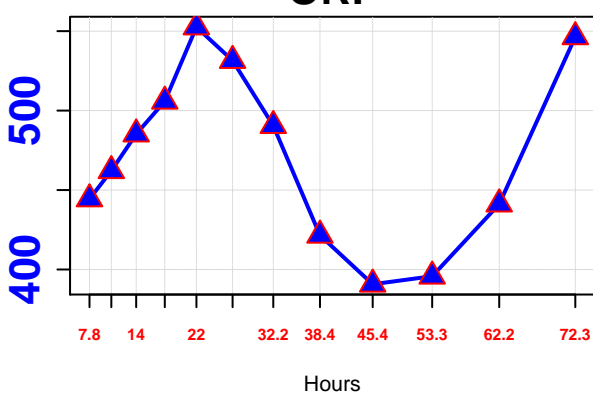
superpathway of histidine, purine, and pyrimidine biosynthesis



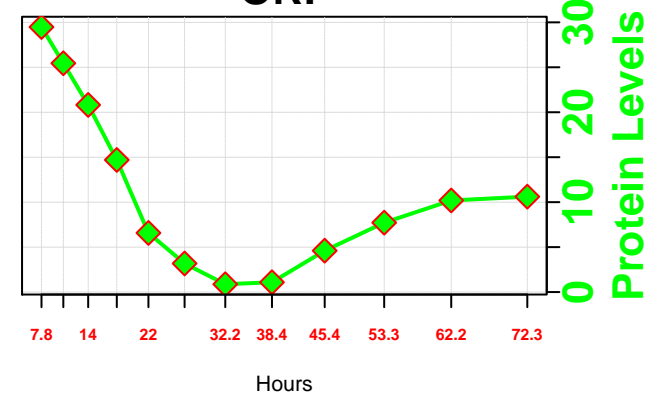
138: COR1
YBL045C
ORF



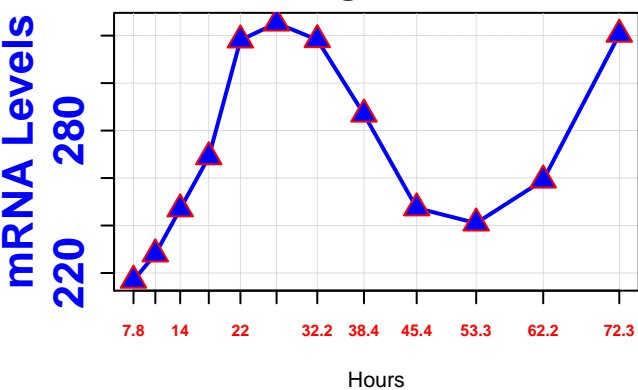
759: COX9
YDL067C
ORF



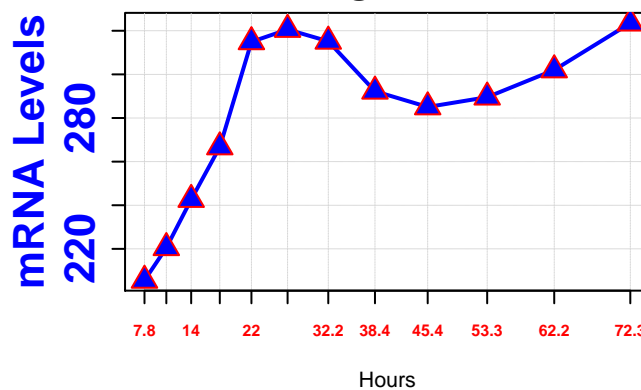
1525: RIP1
YEL024W
ORF



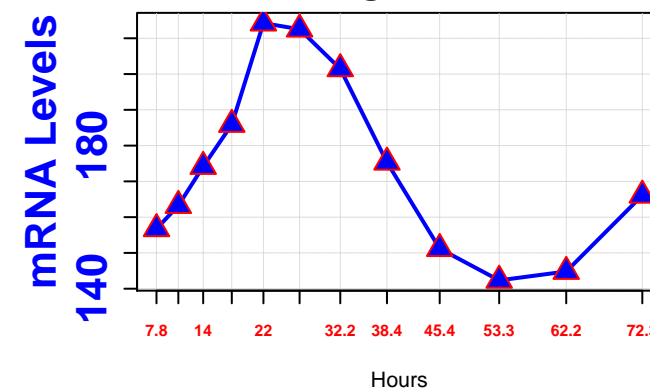
1821: QCR6
YFR033C
ORF



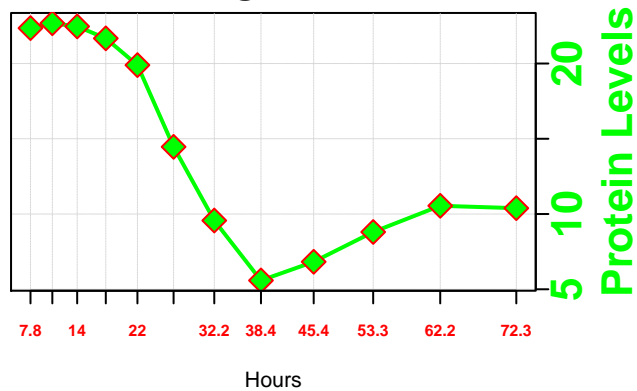
1901: COX13
YGL191W
ORF



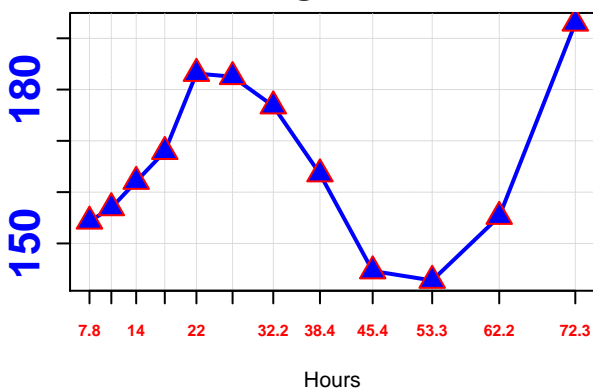
1906: COX4
YGL187C
ORF



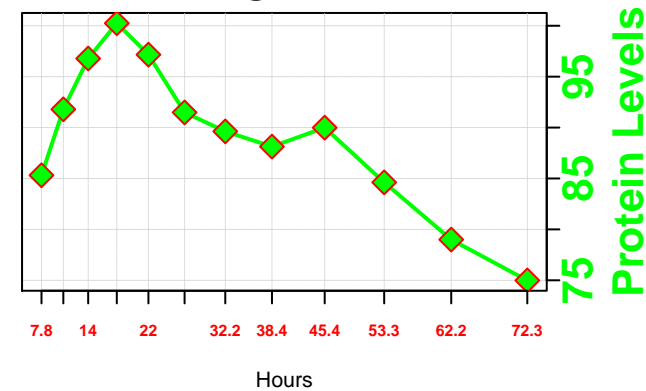
2366: QCR10
YHR001W-A
ORF



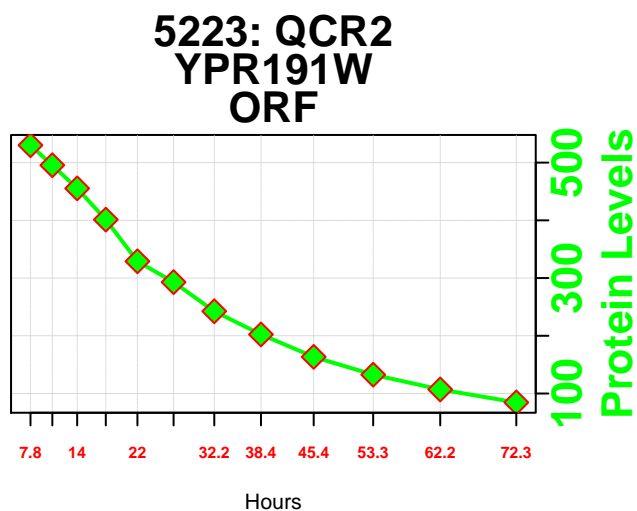
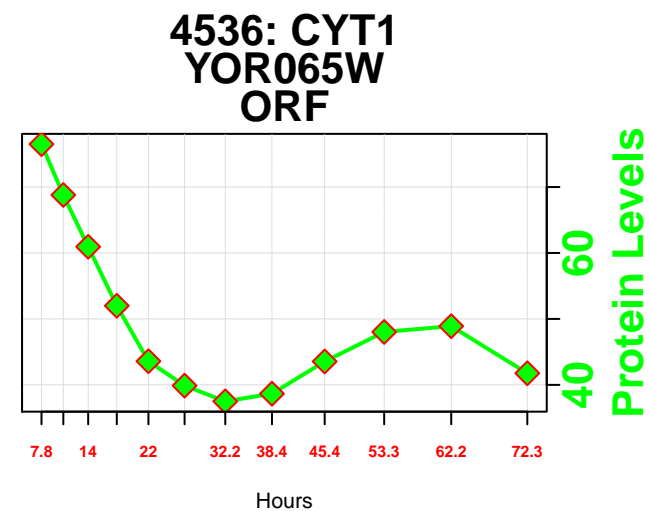
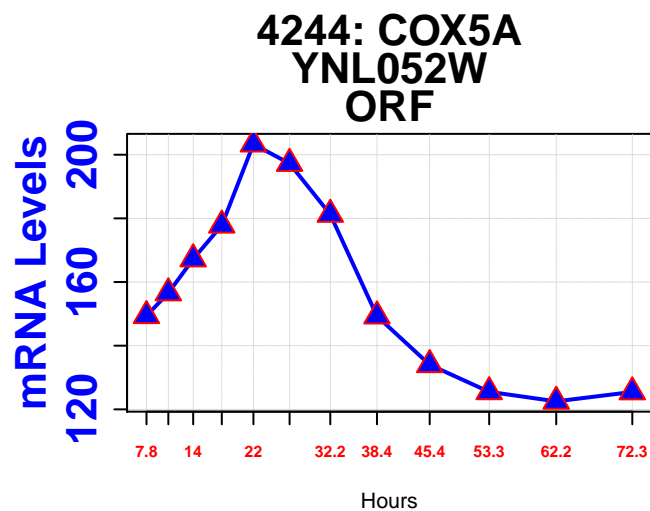
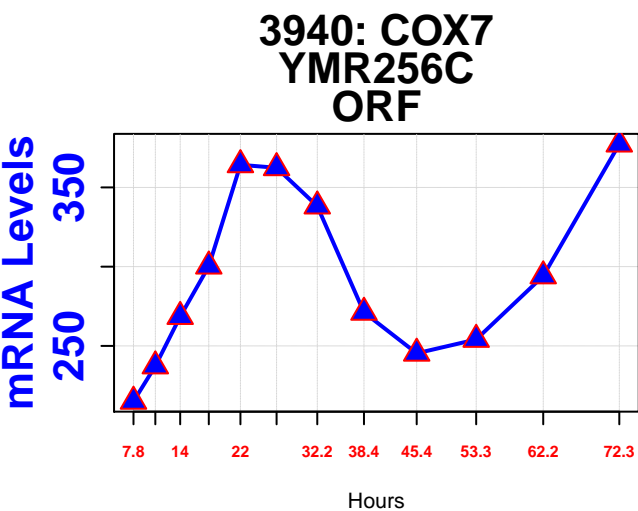
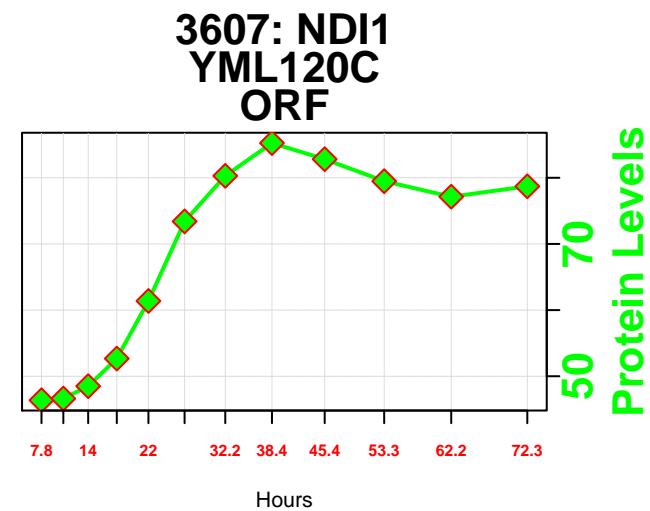
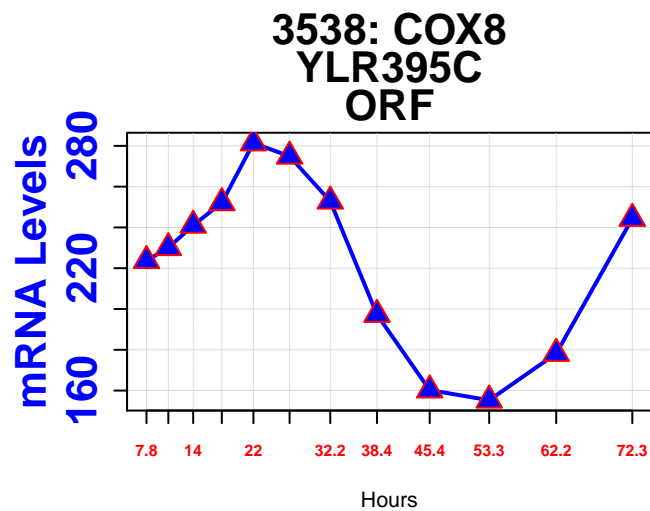
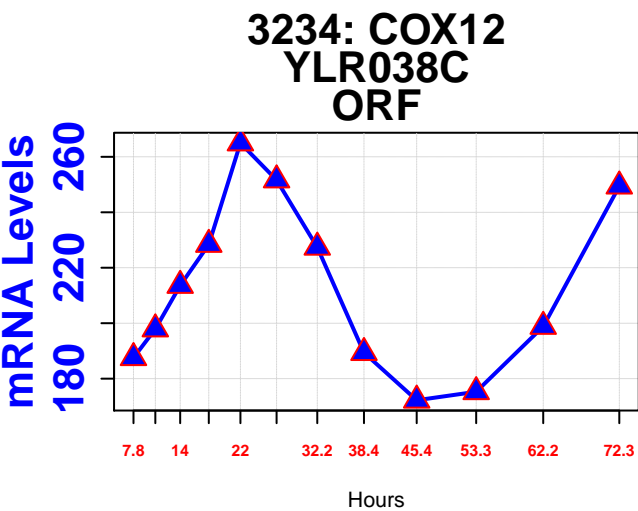
2418: COX6
YHR051W
ORF



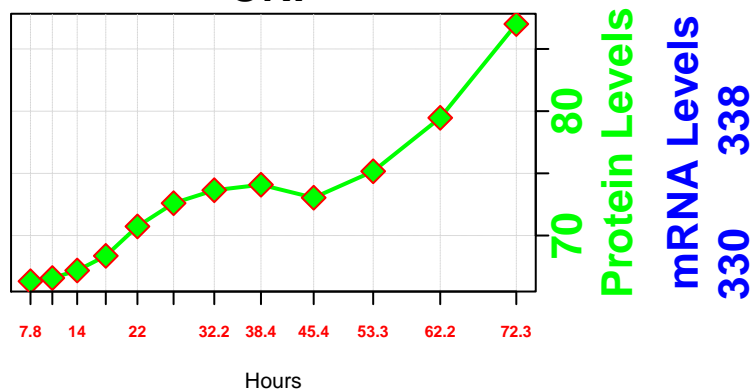
3170: SDH2
YLL041C
ORF



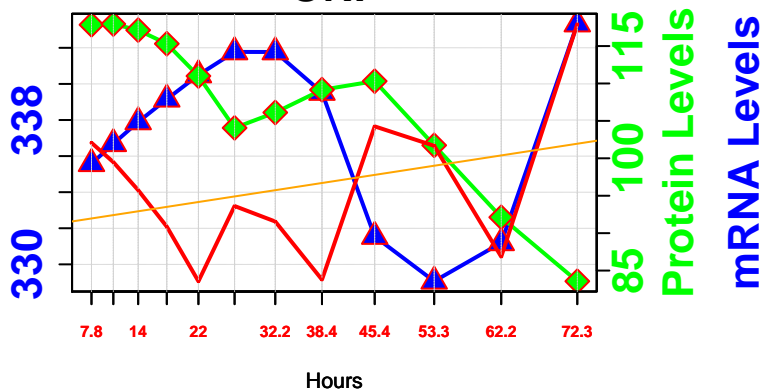
aerobic respiration, electron transport chain



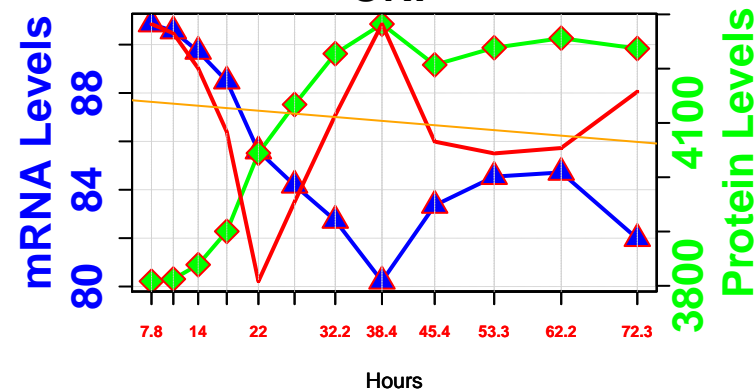
143: URA7
YBL039C
ORF



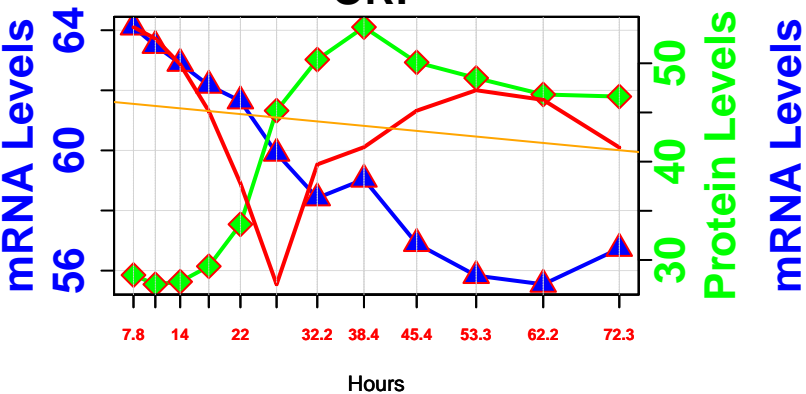
1528: URA3
YEL021W
ORF



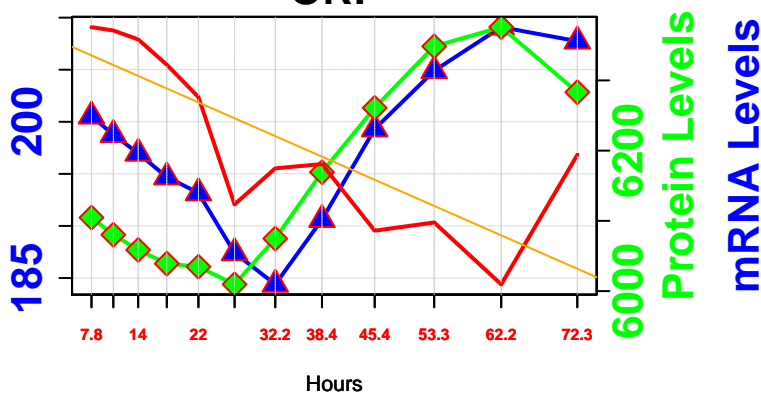
2636: URA2
YJL130C
ORF



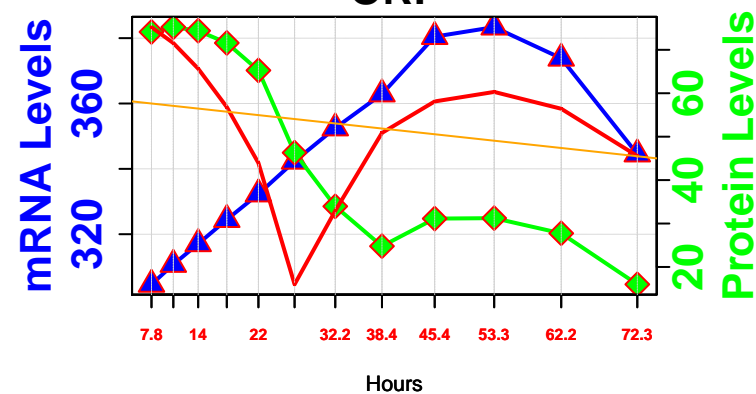
2830: URA8
YJR103W
ORF



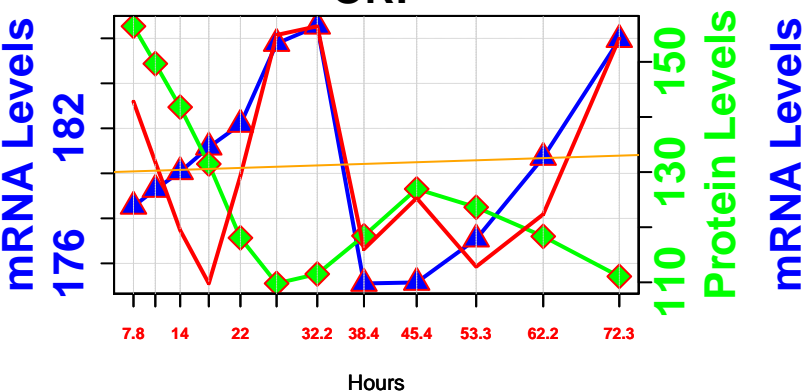
2835: CPA2
YJR109C
ORF



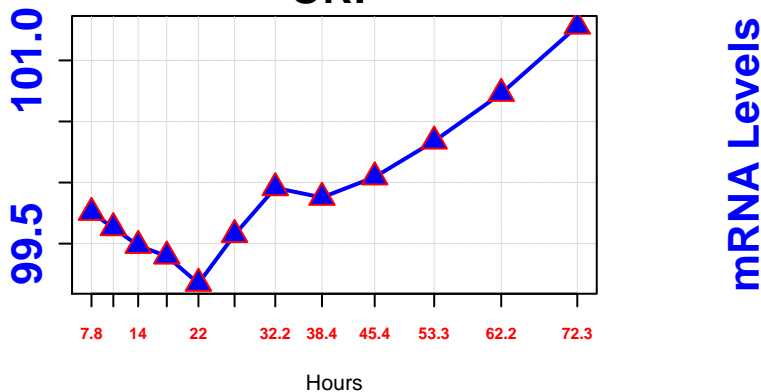
2886: URA1
YKL216W
ORF



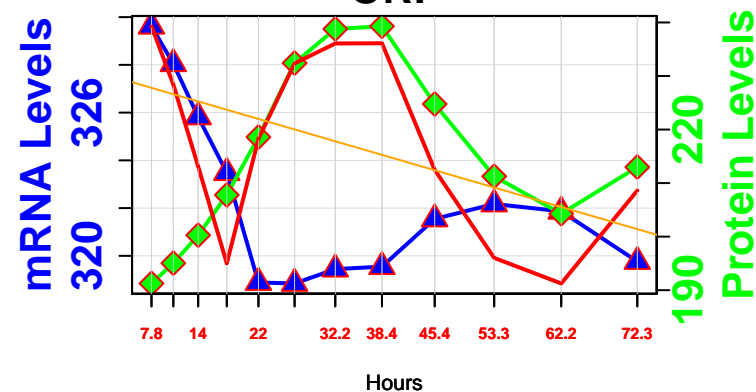
3041: URA6
YKL024C
ORF

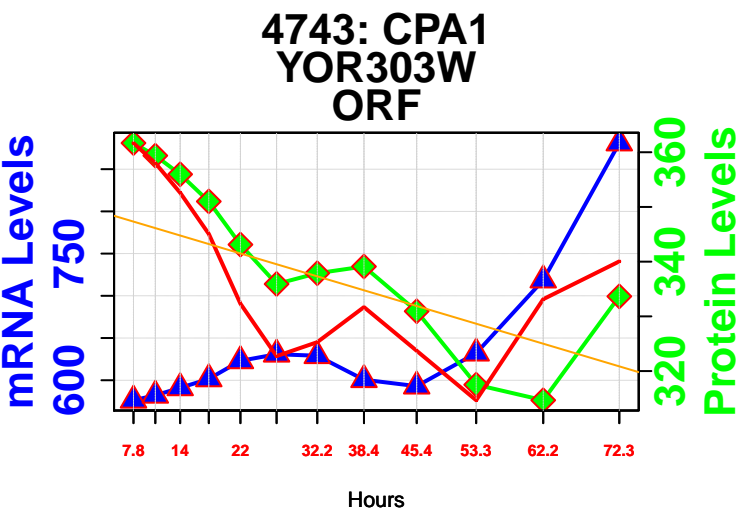


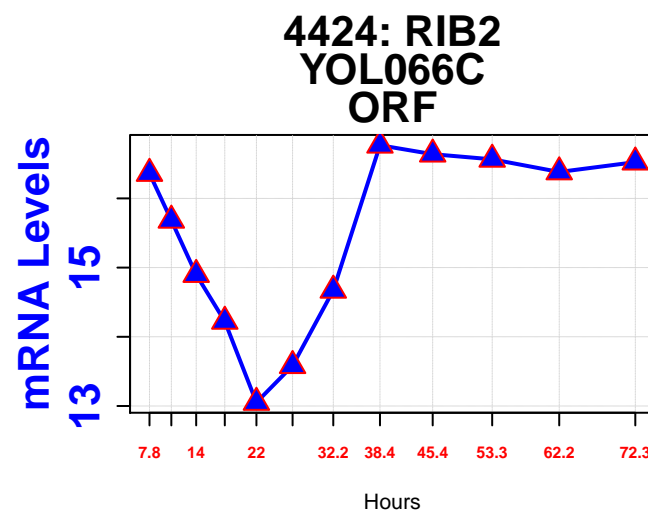
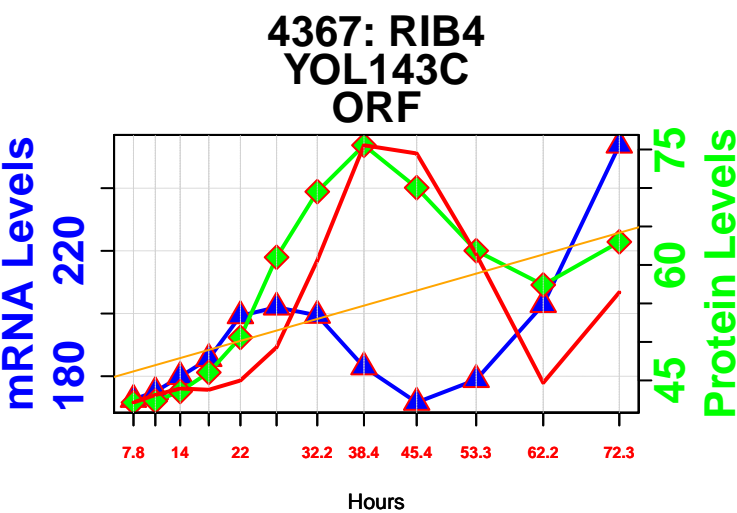
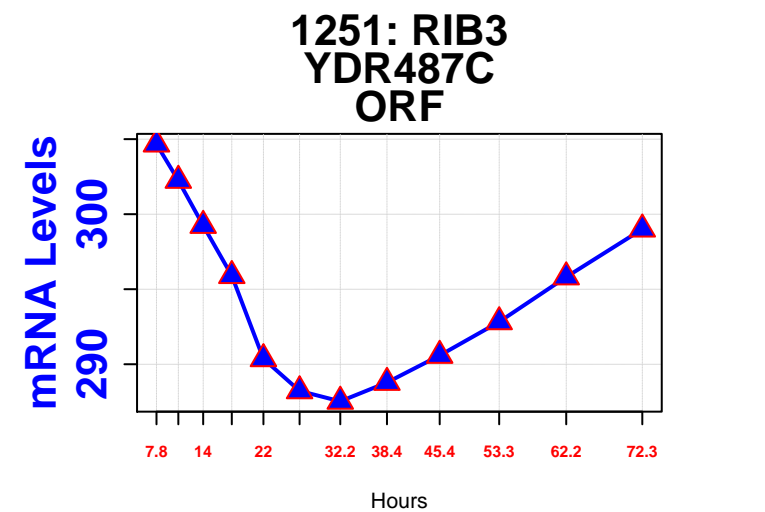
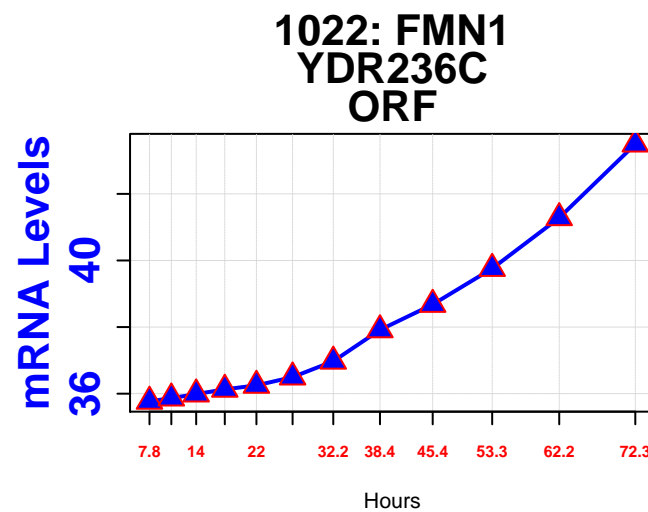
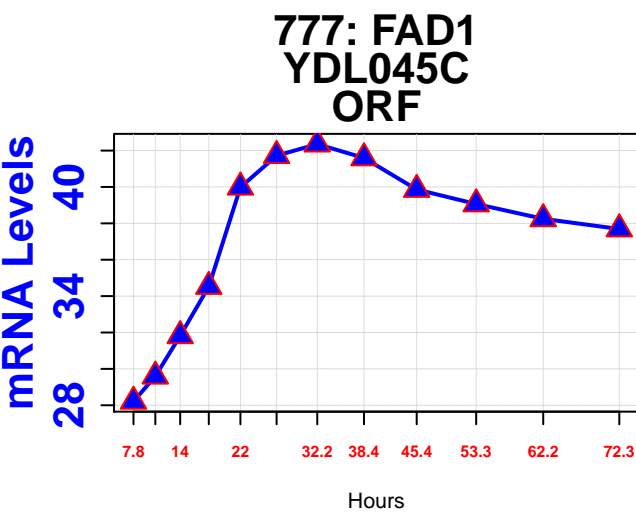
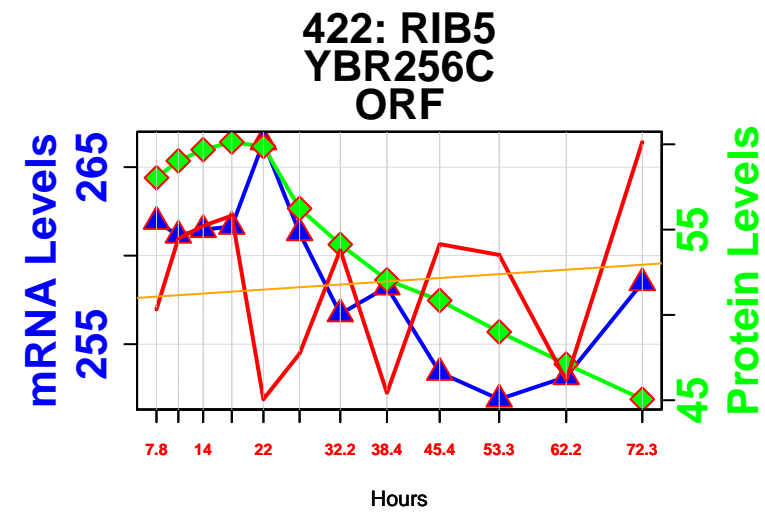
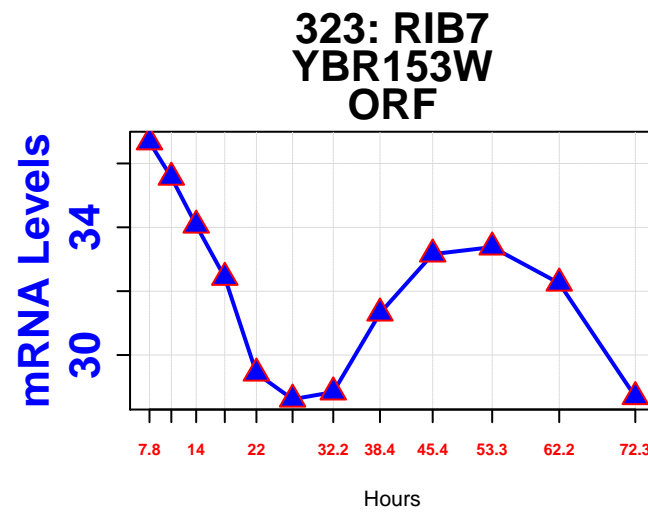
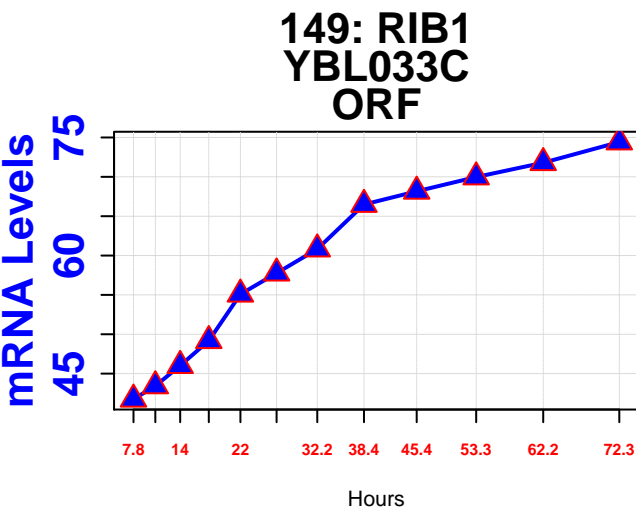
3559: URA4
YLR420W
ORF



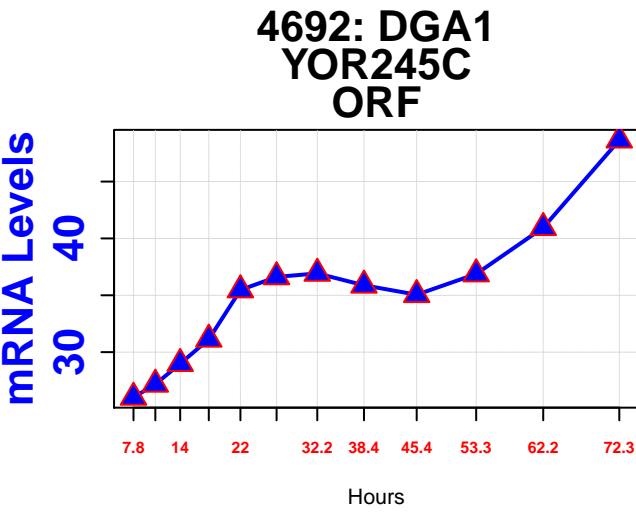
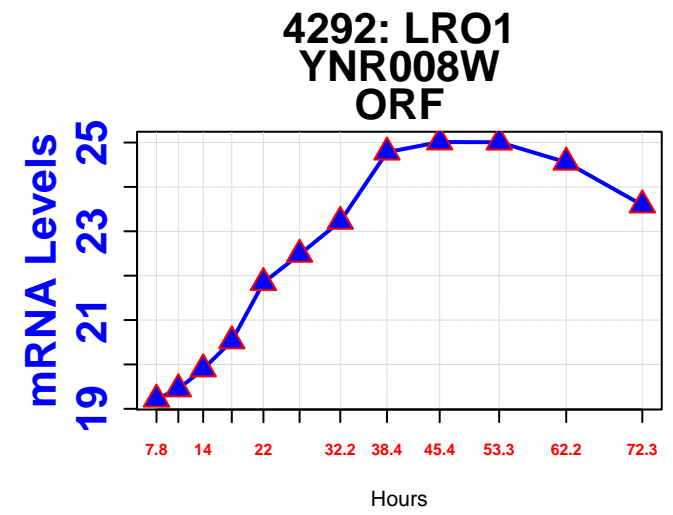
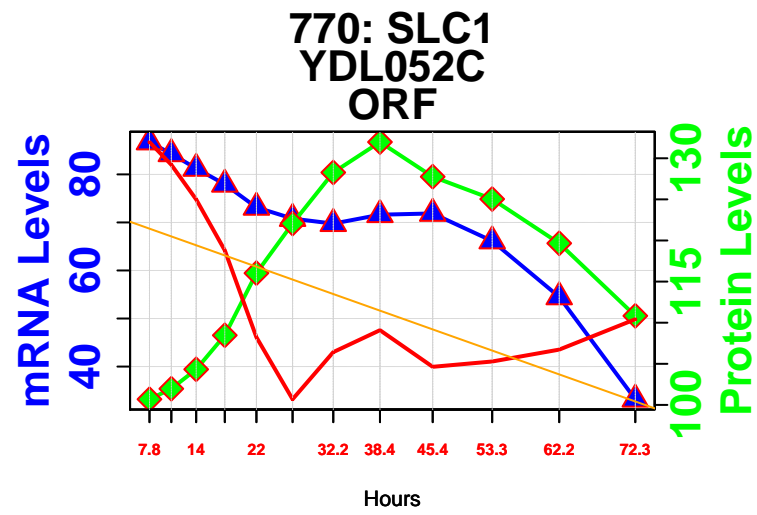
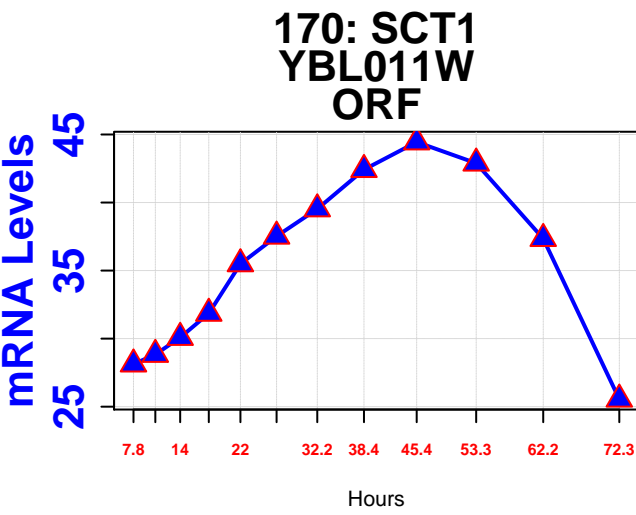
3620: URA5
YML106W
ORF





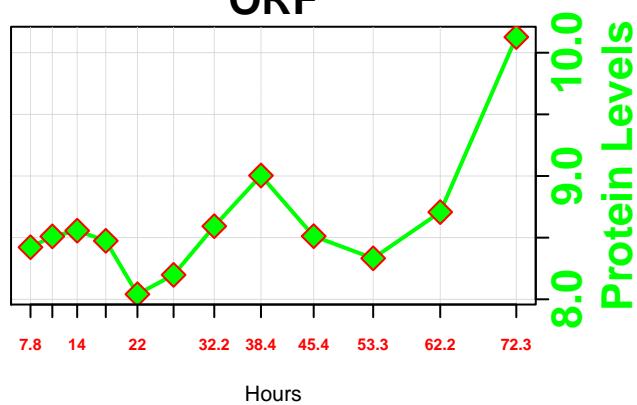


triglyceride biosynthesis

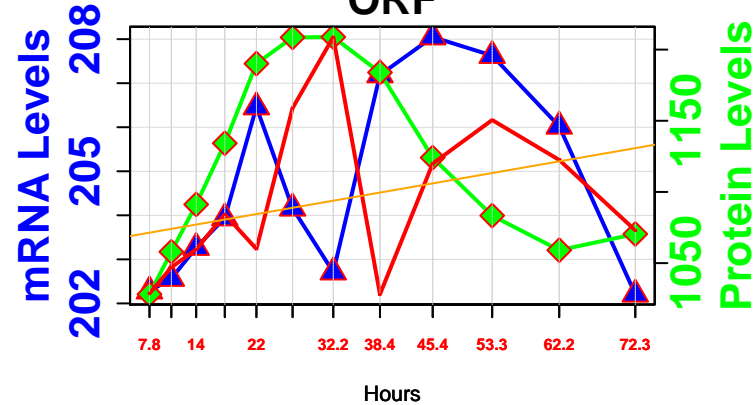


hexaprenyl diphosphate biosynthesis

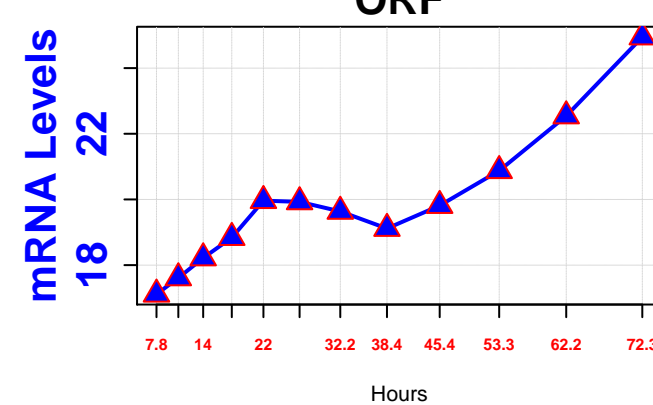
185: COQ1
YBR003W
ORF



2610: ERG20
YJL167W
ORF

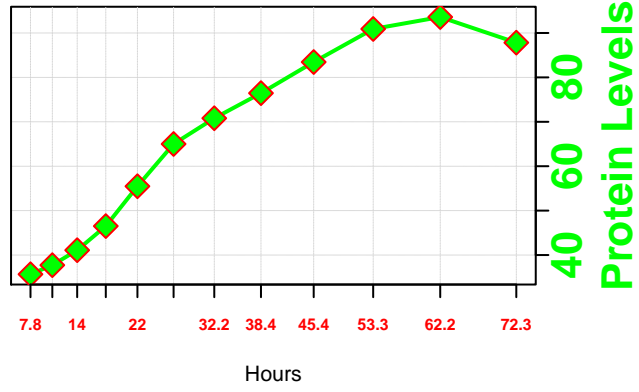


4997: BTS1
YPL069C
ORF

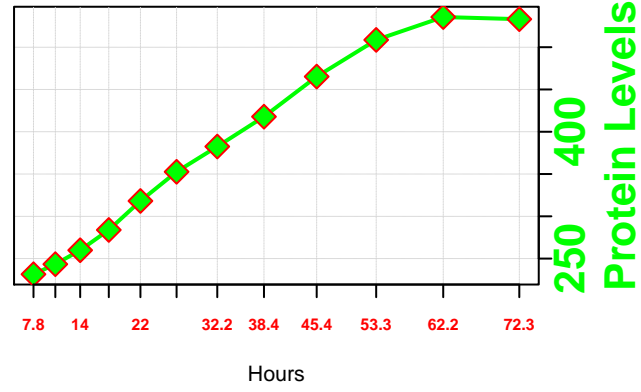


4-aminobutyrate degradation

188: UGA2
YBR006W
ORF

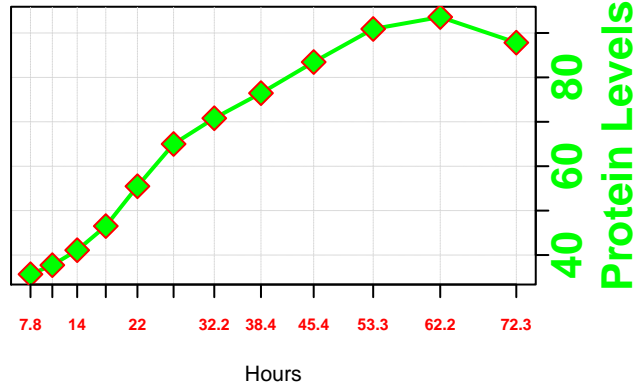


2088: UGA1
YGR019W
ORF

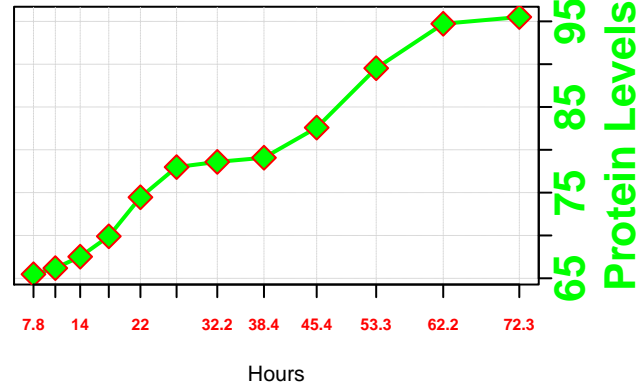


glutamate degradation I

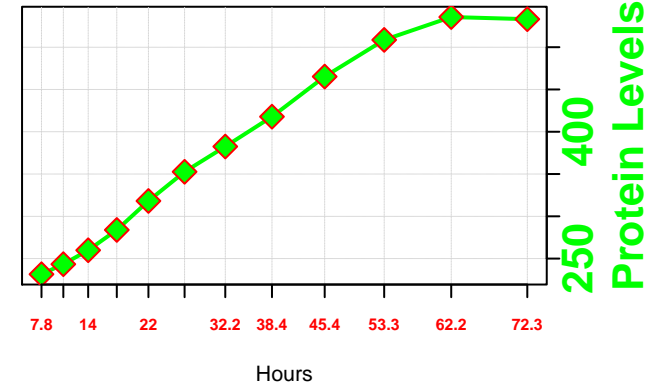
188: UGA2
YBR006W
ORF



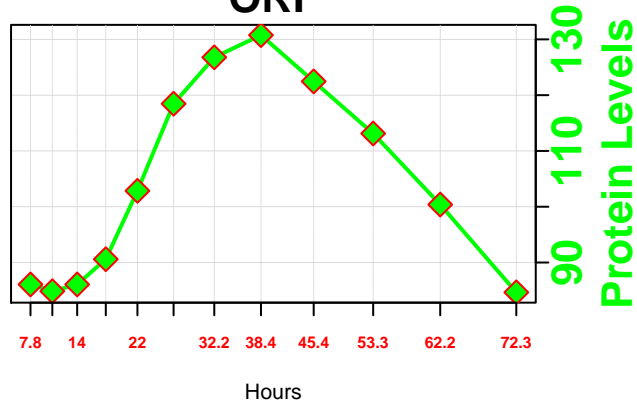
629: GDH2
YDL215C
ORF



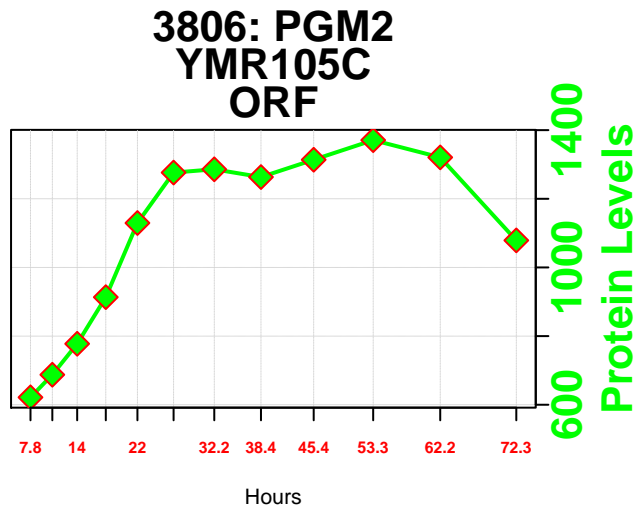
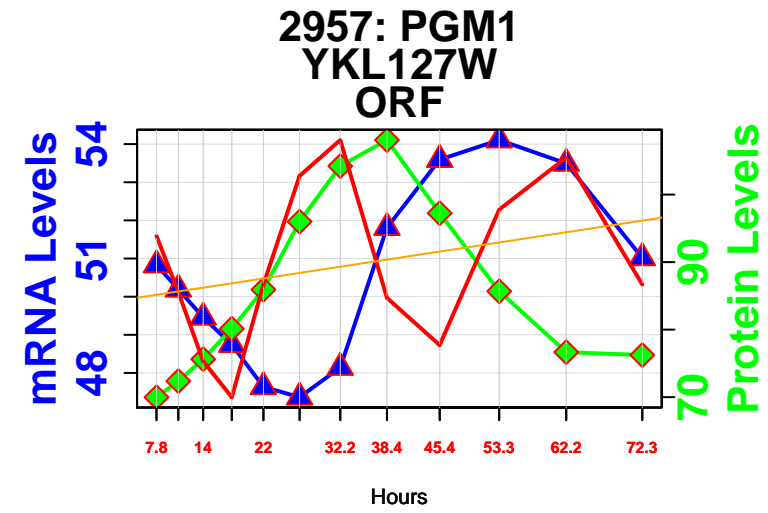
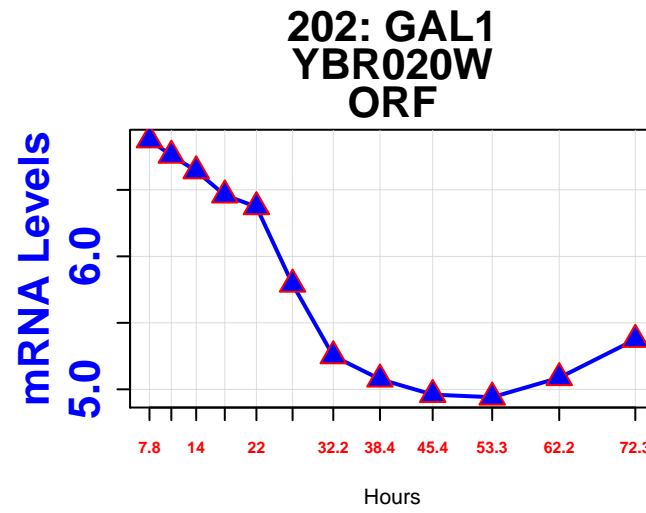
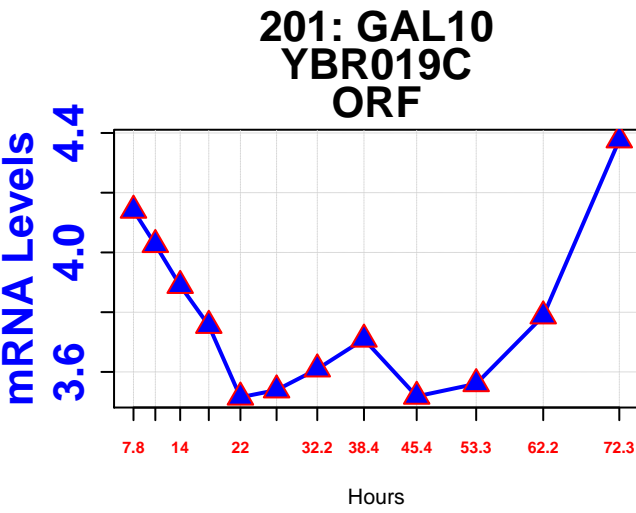
2088: UGA1
YGR019W
ORF



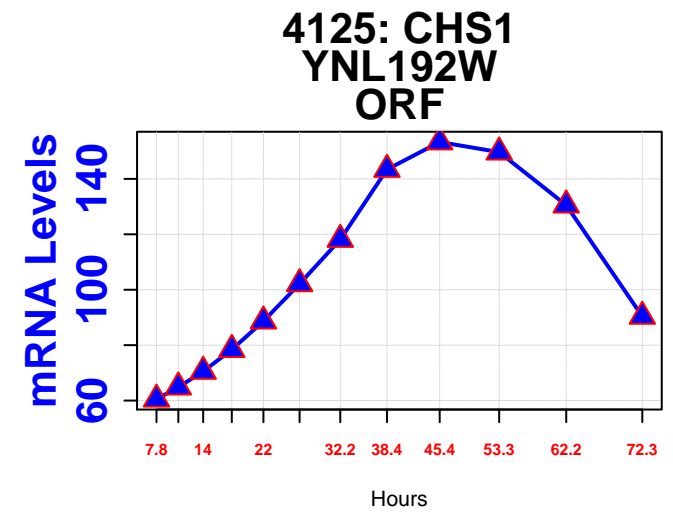
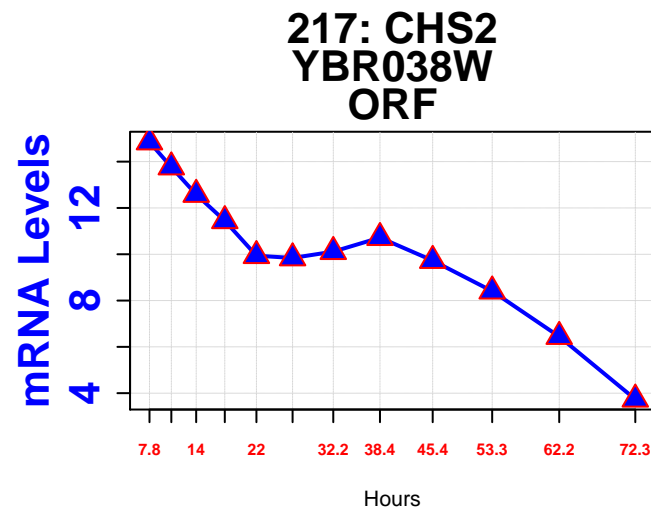
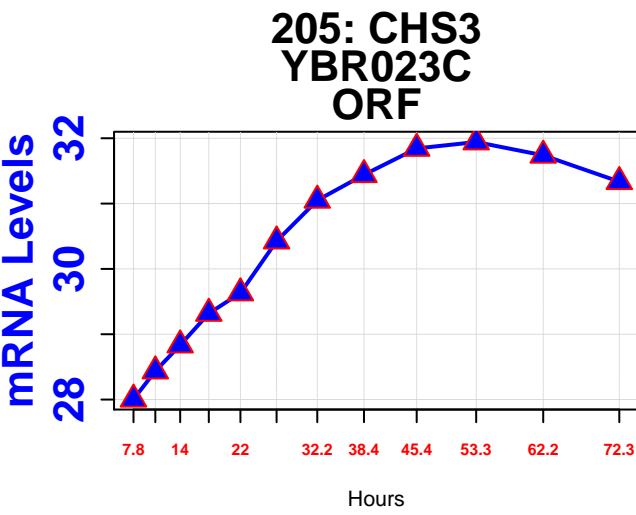
3935: GAD1
YMR250W
ORF

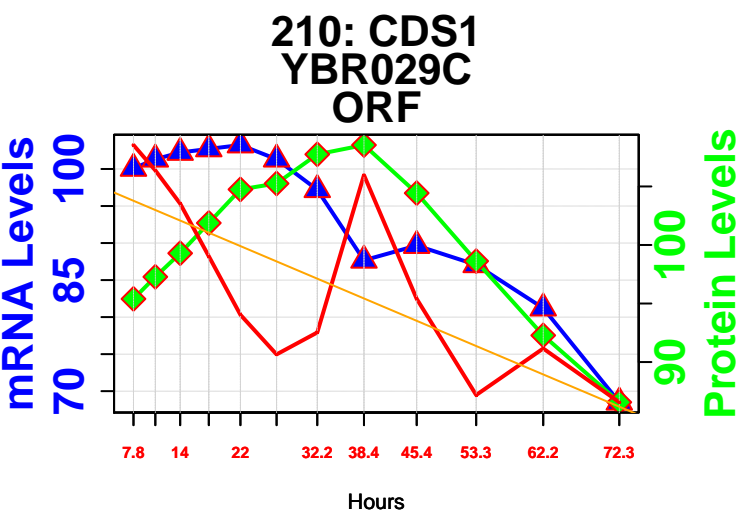


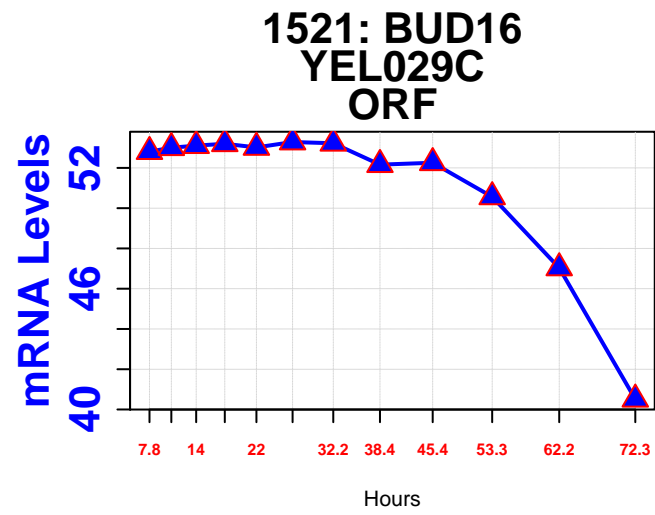
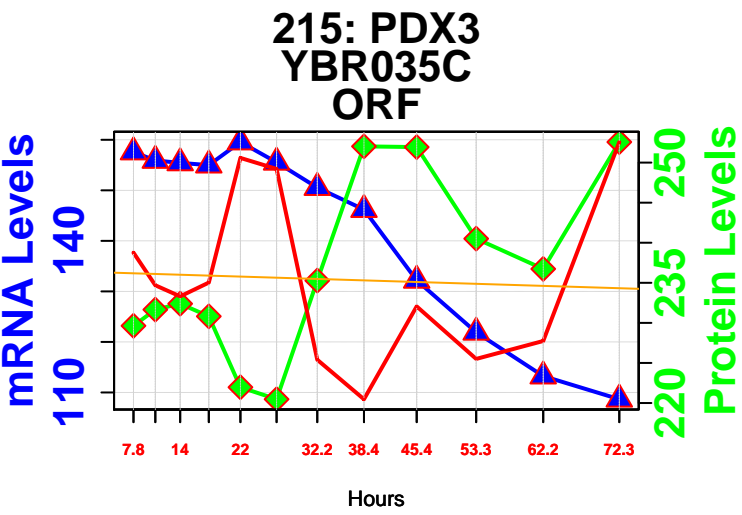
galactose degradation

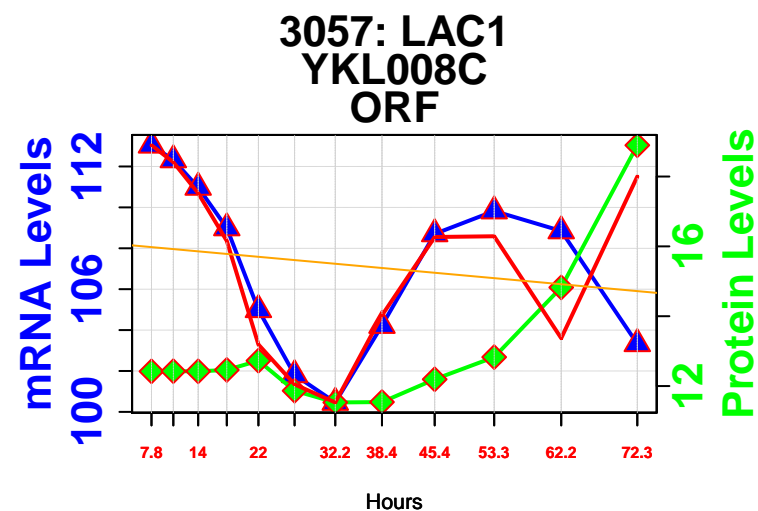
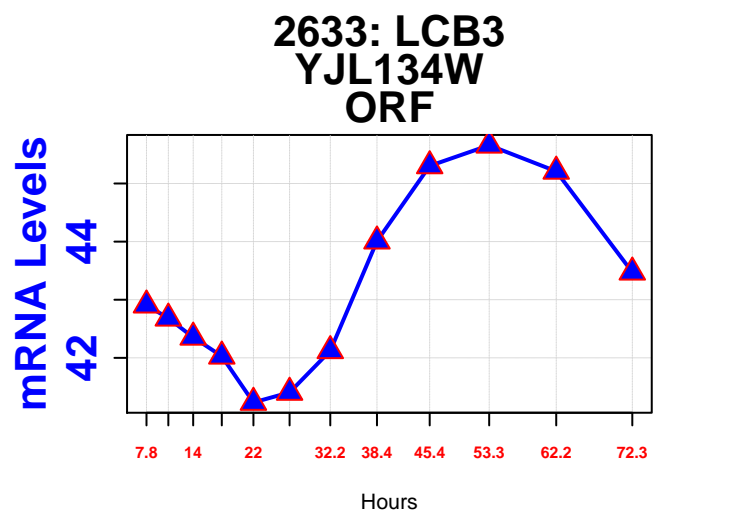
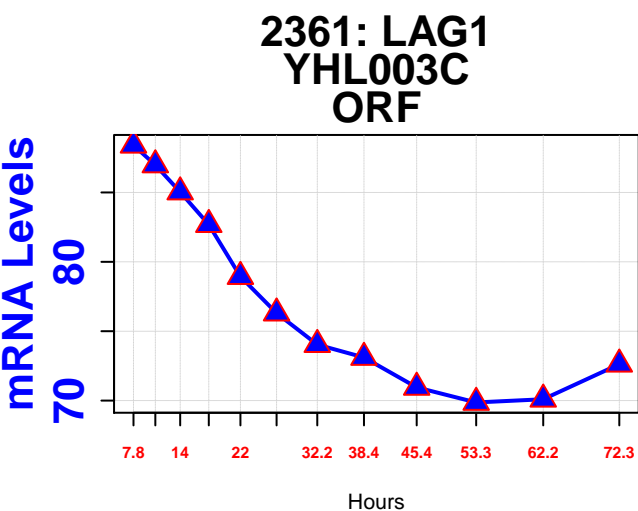
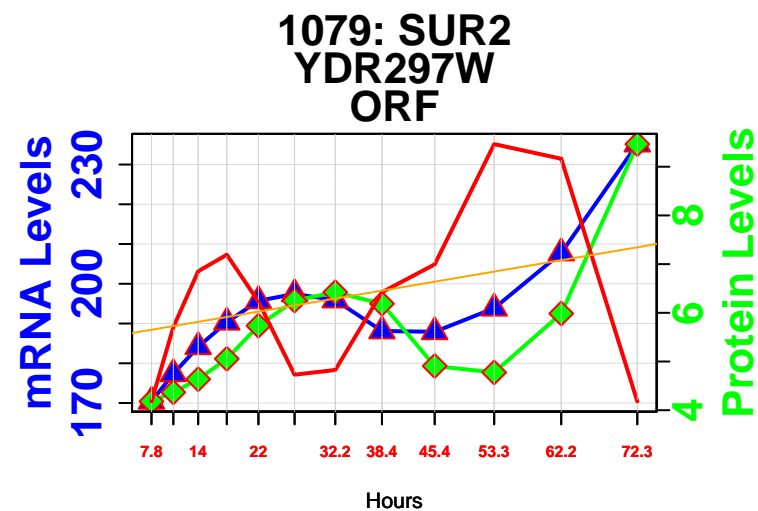
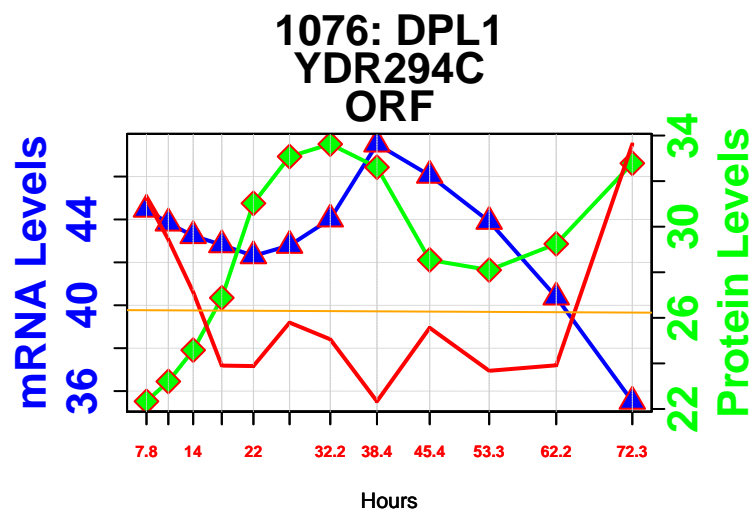
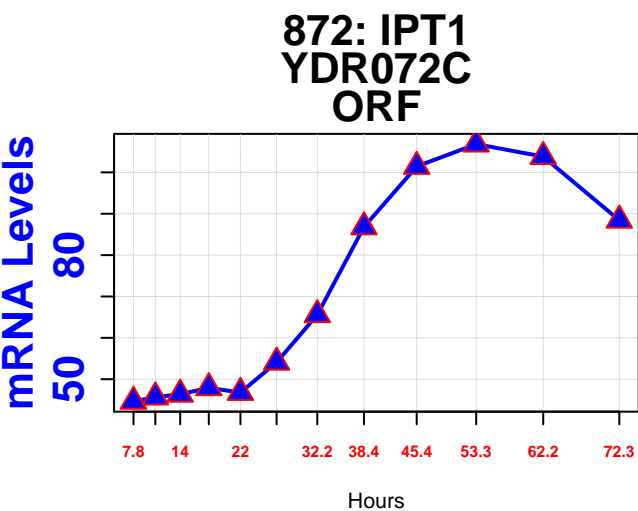
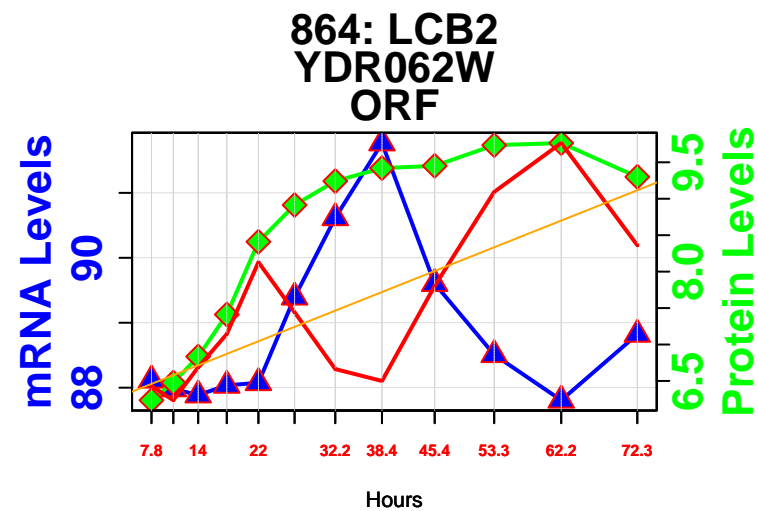
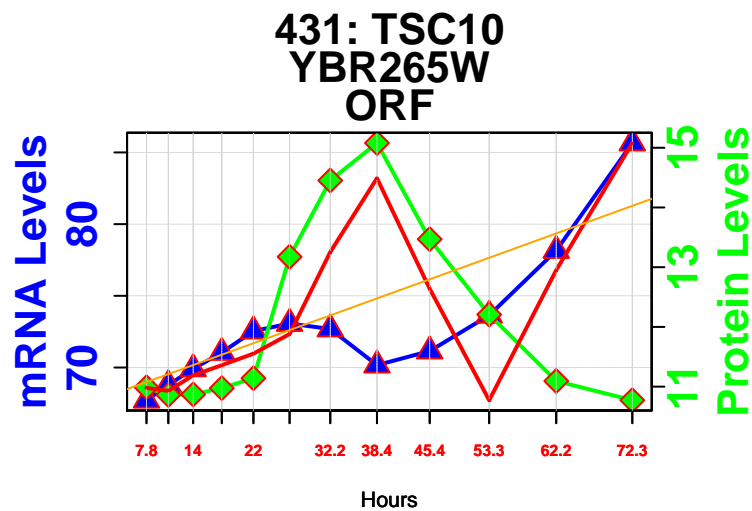
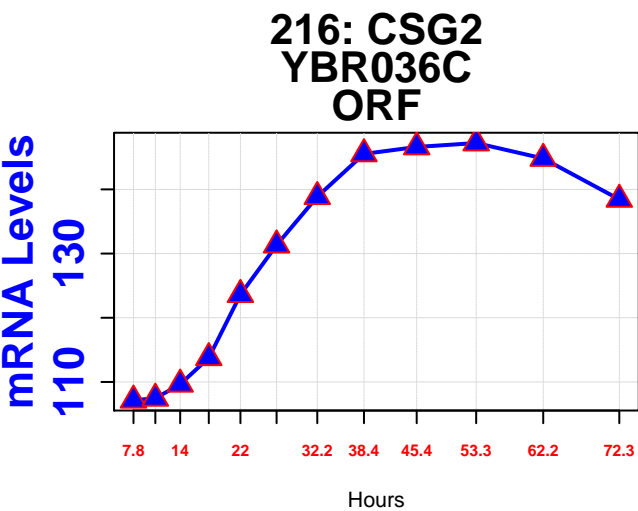


chitin biosynthesis



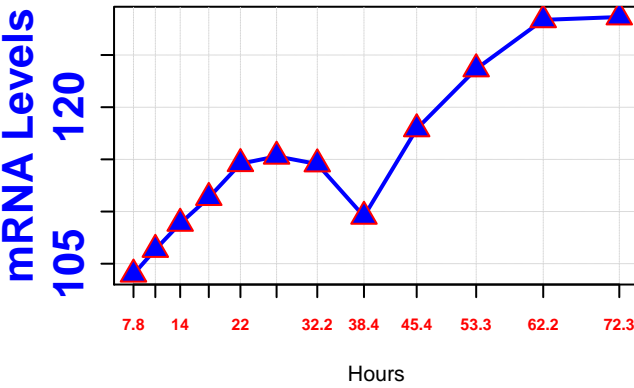




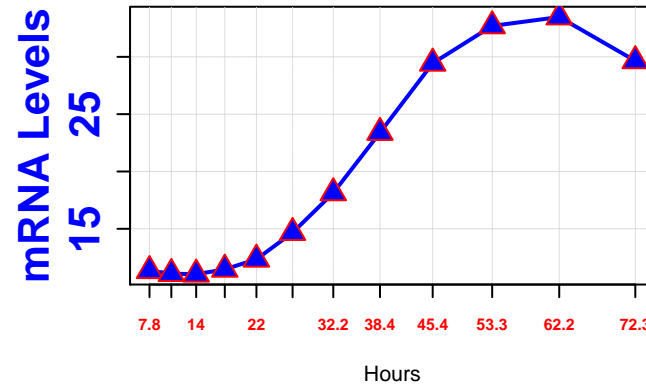


sphingolipid metabolism

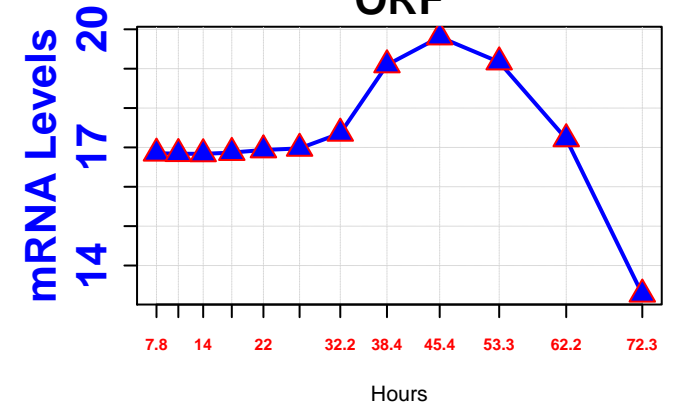
3062: AUR1
YKL004W
ORF



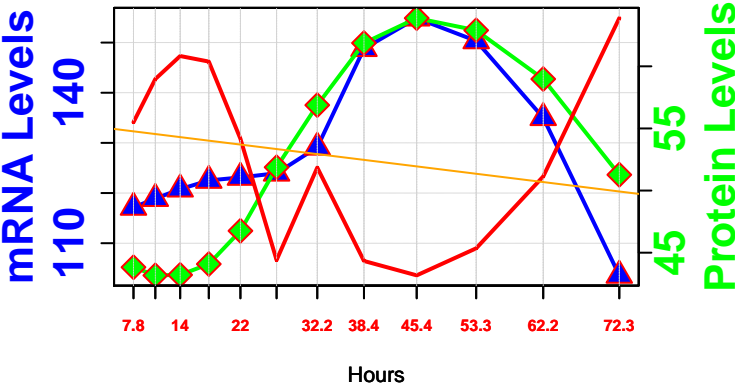
3110: YSR3
YKR053C
ORF



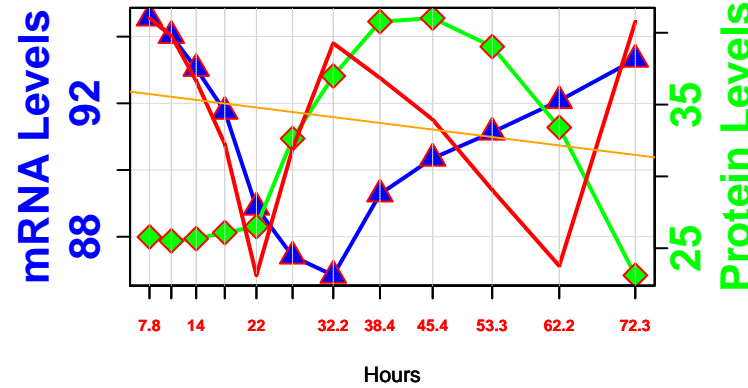
3423: LCB5
YLR260W
ORF



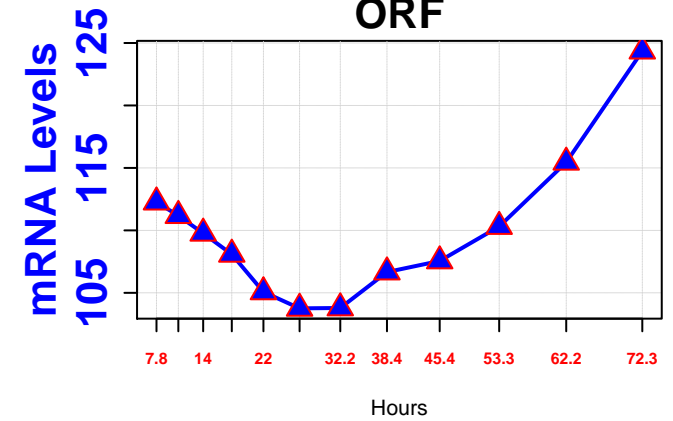
3952: SCS7
YMR272C
ORF



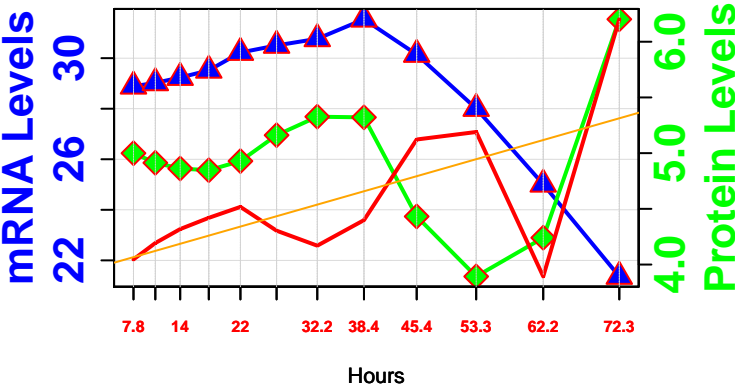
3976: LCB1
YMR296C
ORF



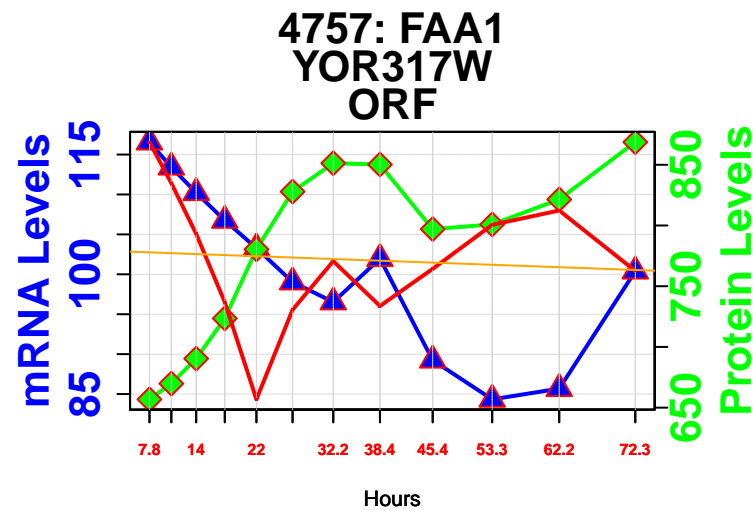
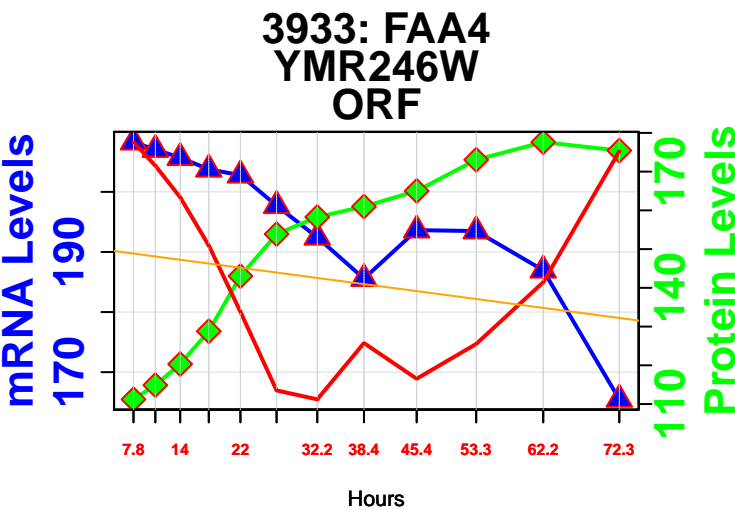
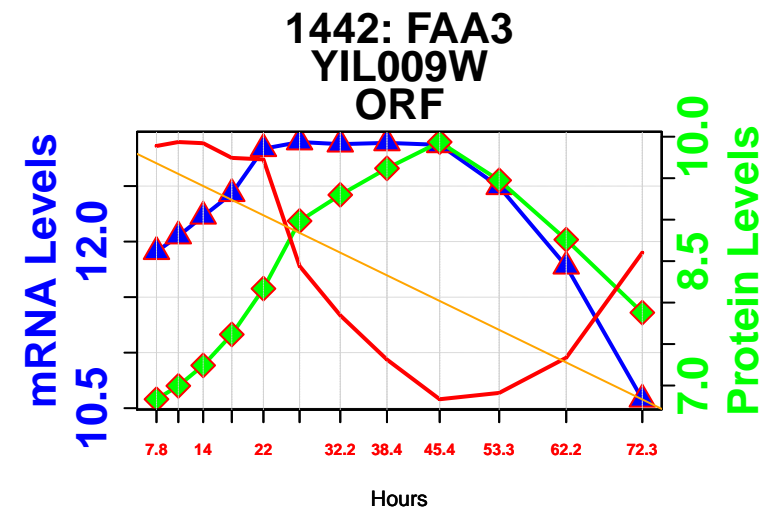
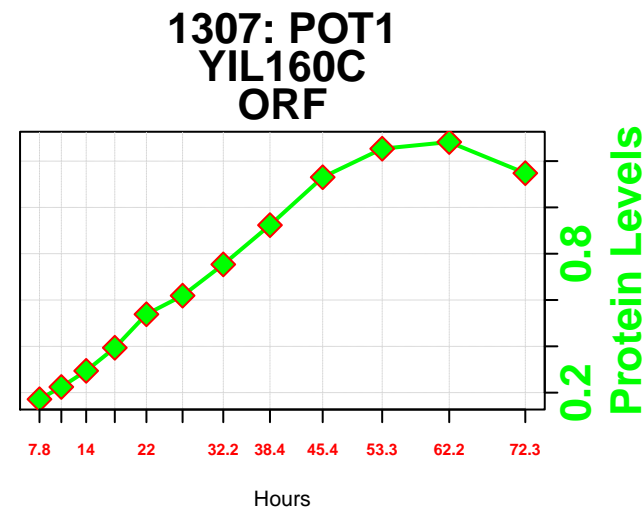
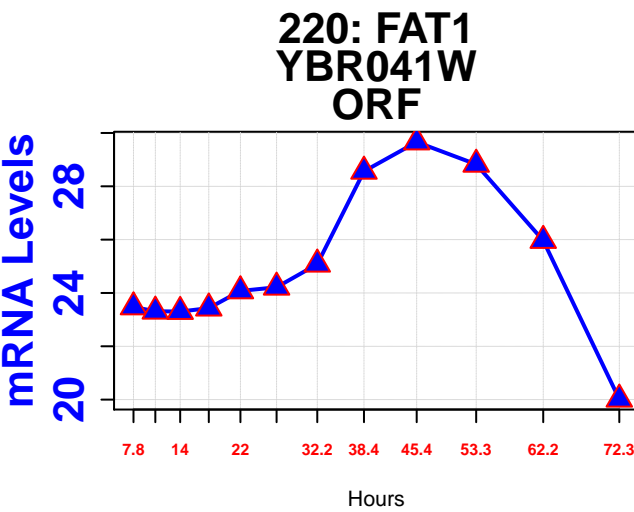
3977: LIP1
YMR298W
ORF



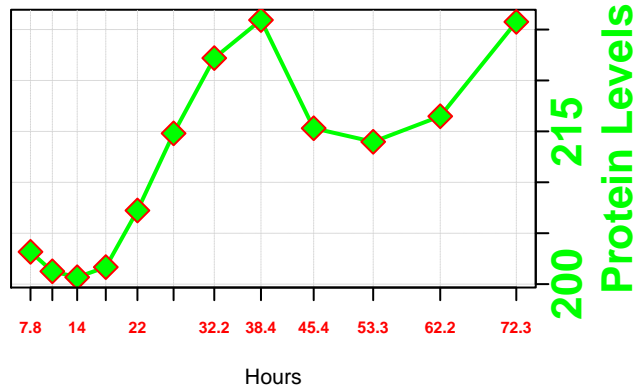
4631: LCB4
YOR171C
ORF



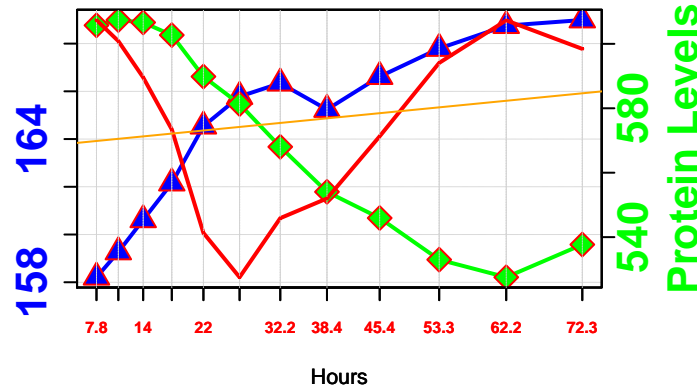
fatty acid oxidation pathway



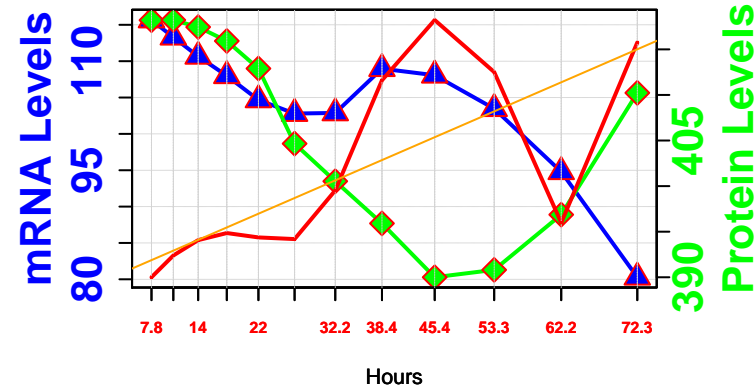
259: MIS1
YBR084W
ORF



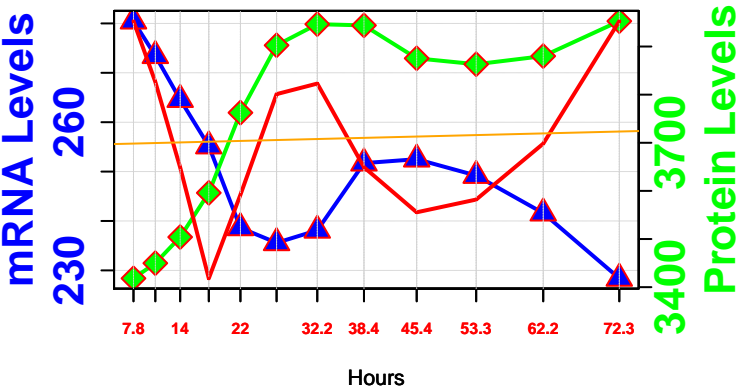
429: SHM1
YBR263W
ORF



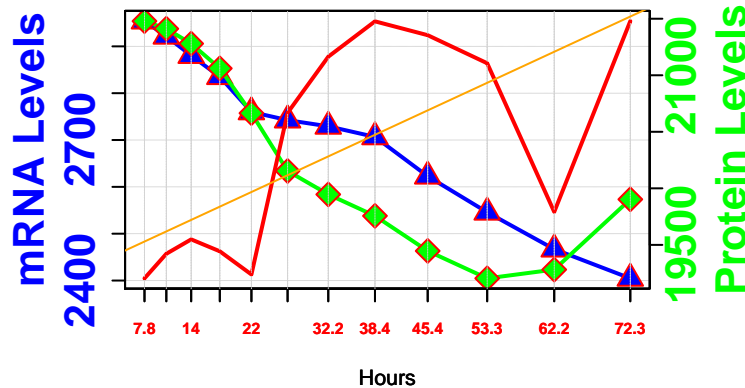
1958: MET13
YGL125W
ORF



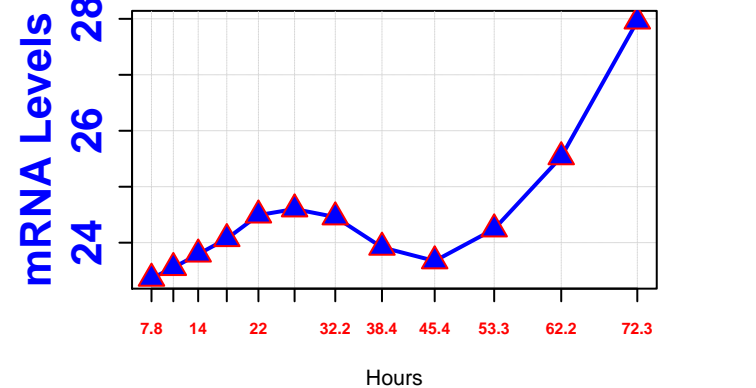
2247: ADE3
YGR204W
ORF



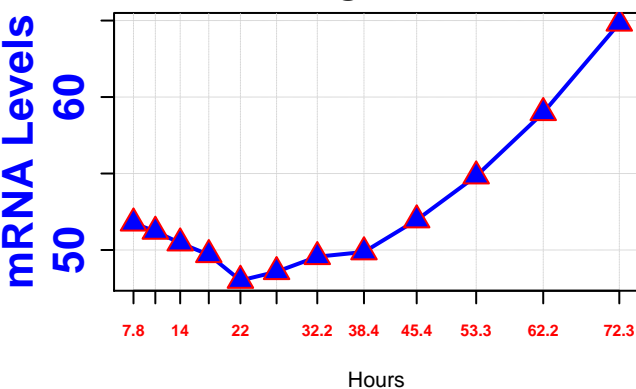
3253: SHM2
YLR058C
ORF



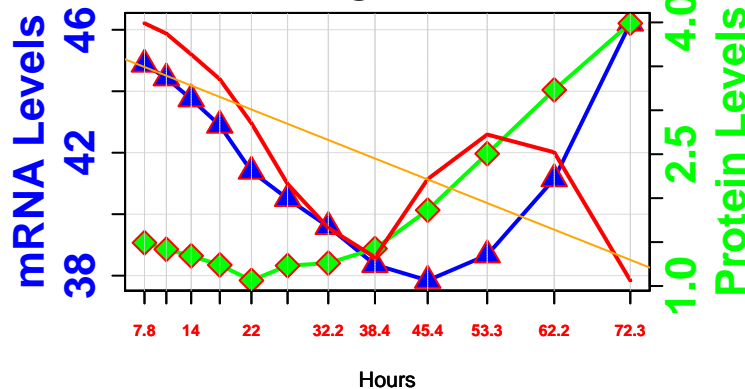
3812: FOL3
YMR113W
ORF



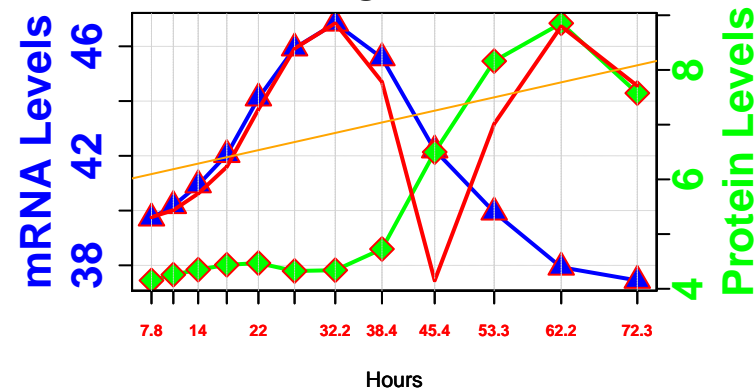
4684: DFR1
YOR236W
ORF



4688: MET7
YOR241W
ORF

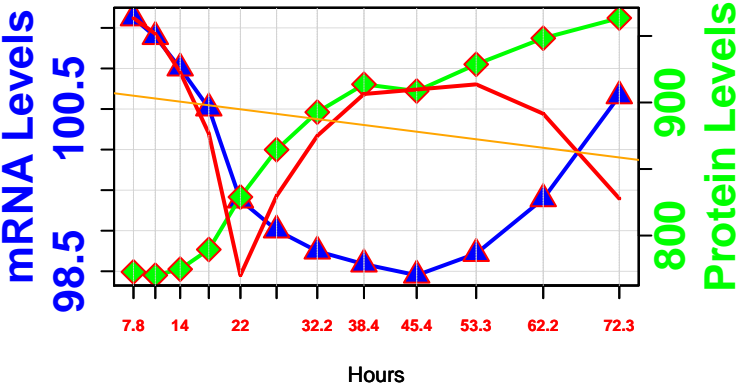


5034: MET12
YPL023C
ORF

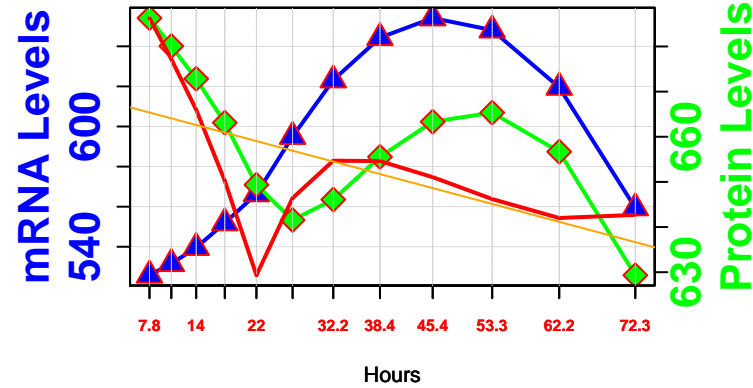


lysine biosynthesis

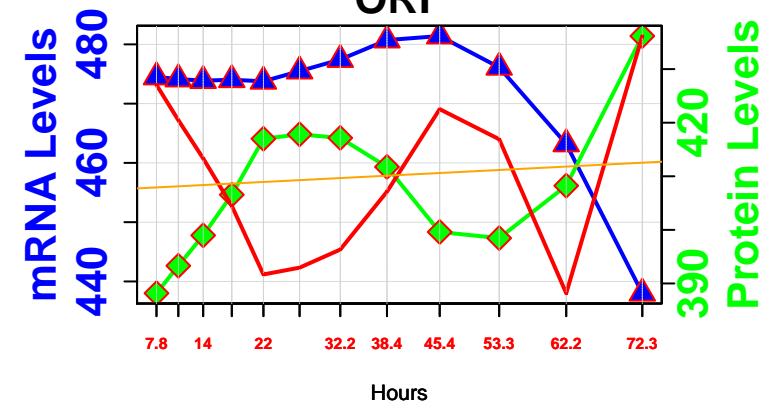
293: LYS2
YBR115C
ORF



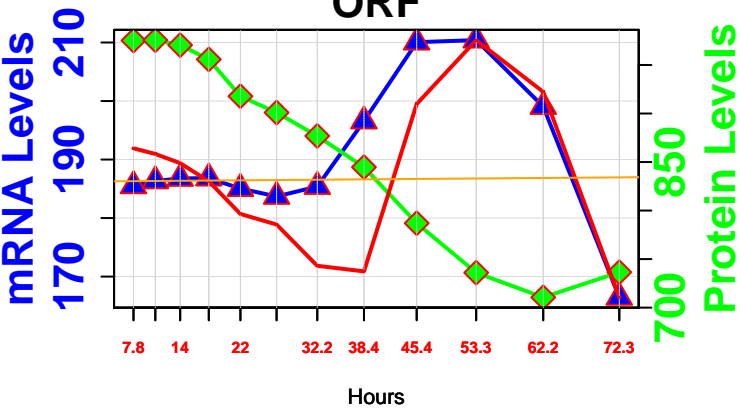
654: LYS20
YDL182W
ORF



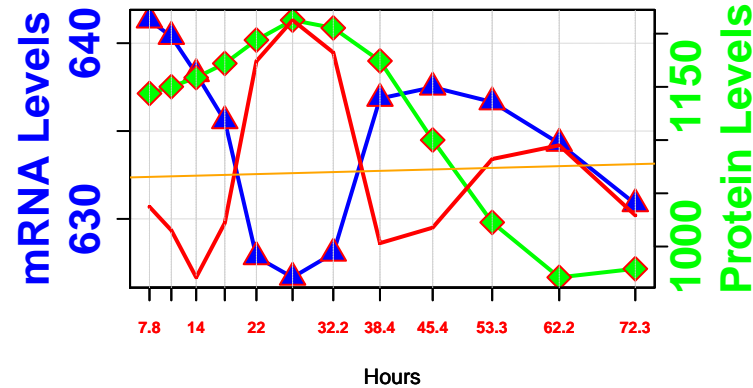
701: LYS21
YDL131W
ORF



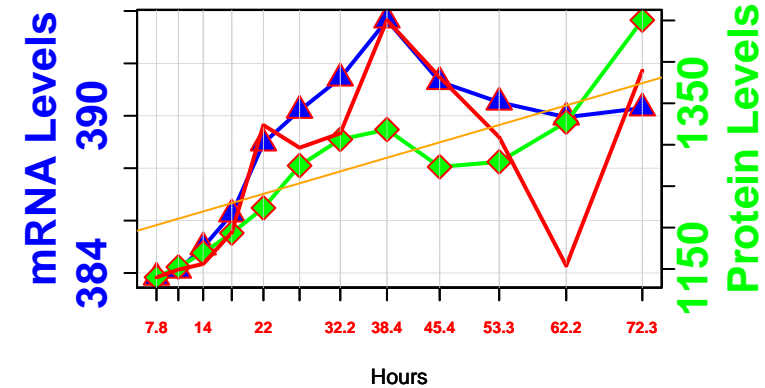
1020: LYS4
YDR234W
ORF



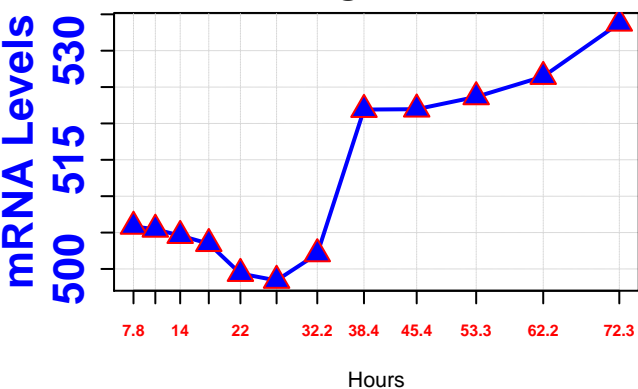
1368: LYS12
YIL094C
ORF



1476: LYS1
YIR034C
ORF

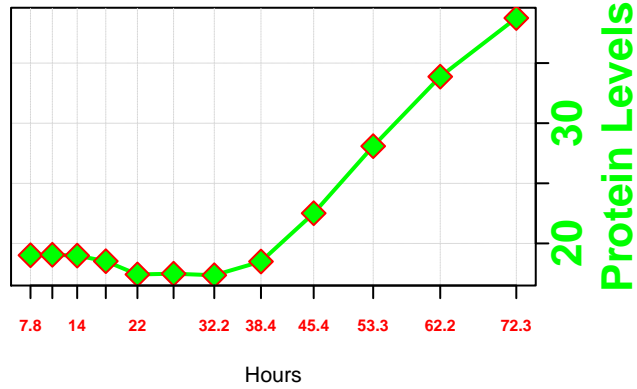


4330: LYS9
YNR050C
ORF

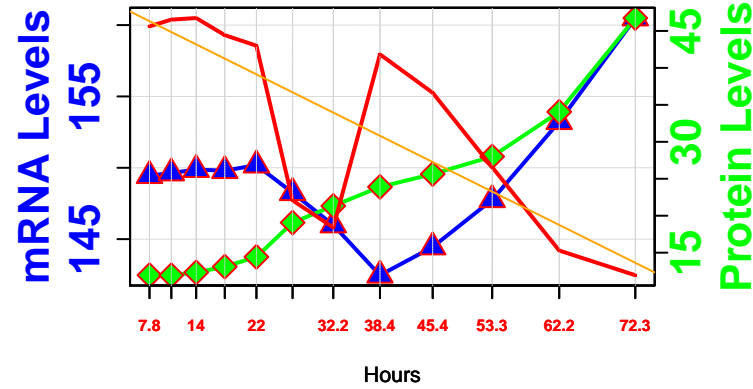


non-oxidative branch of the pentose phosphate pathway

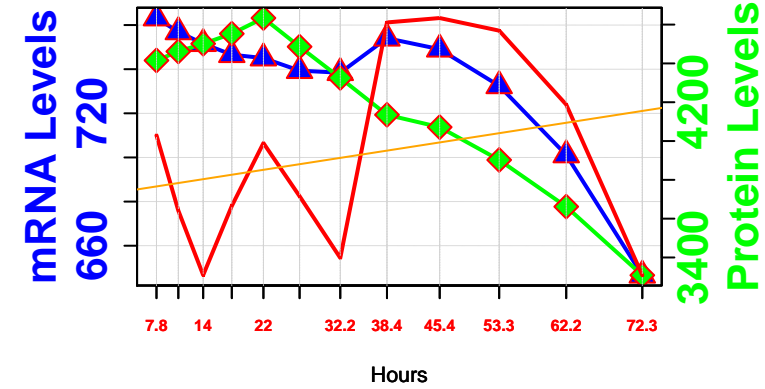
294: TKL2
YBR117C
ORF



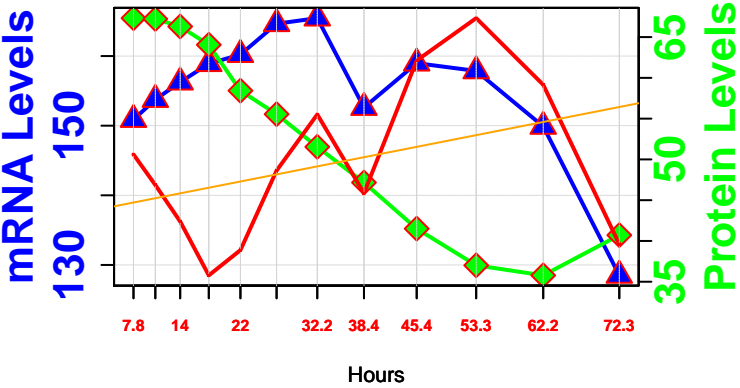
2645: RPE1
YJL121C
ORF



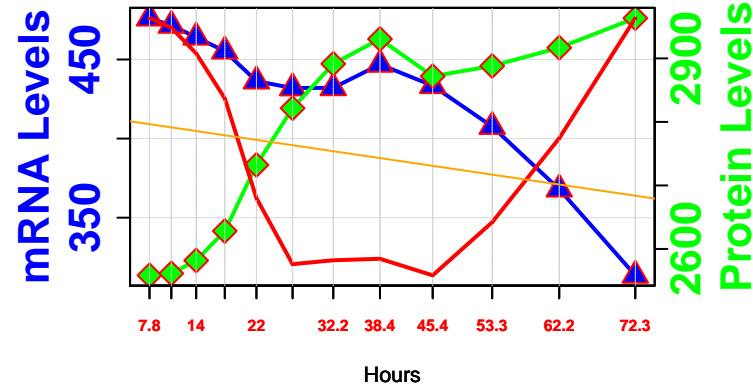
3504: TAL1
YLR354C
ORF



4563: RKI1
YOR095C
ORF

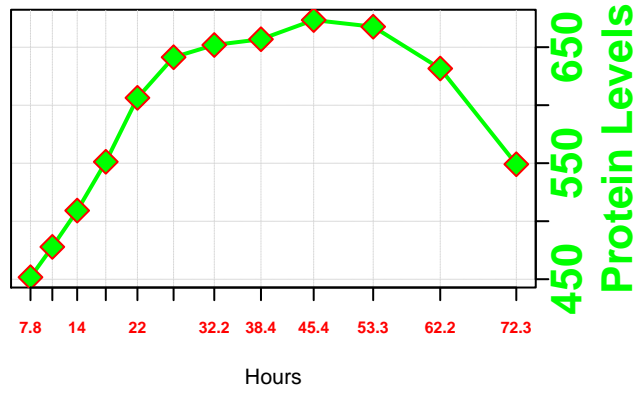


5113: TKL1
YPR074C
ORF

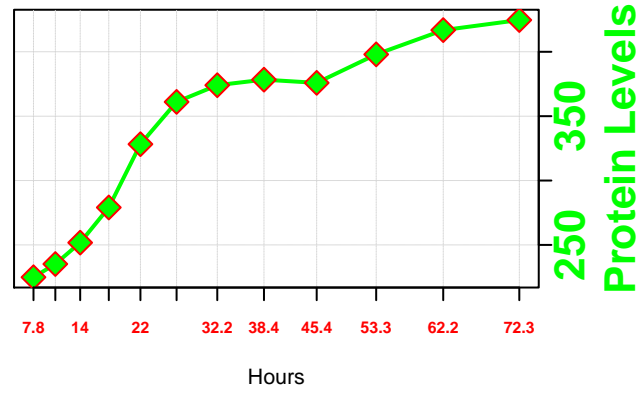


trehalose biosynthesis

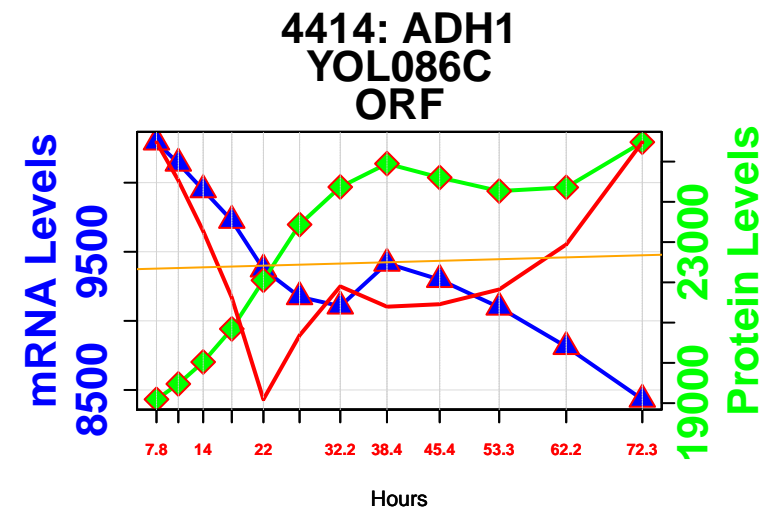
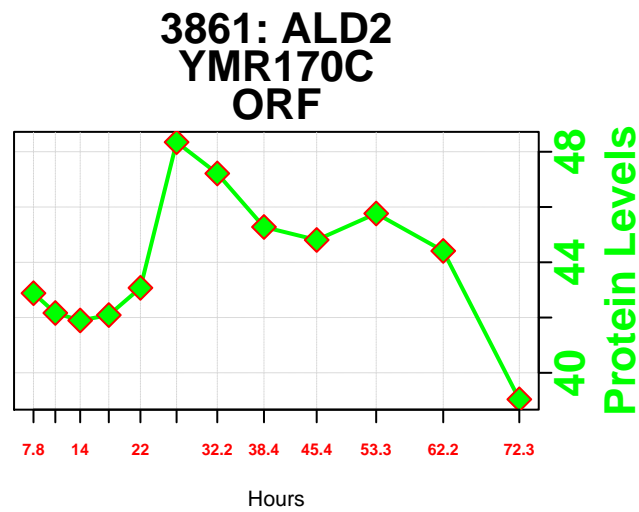
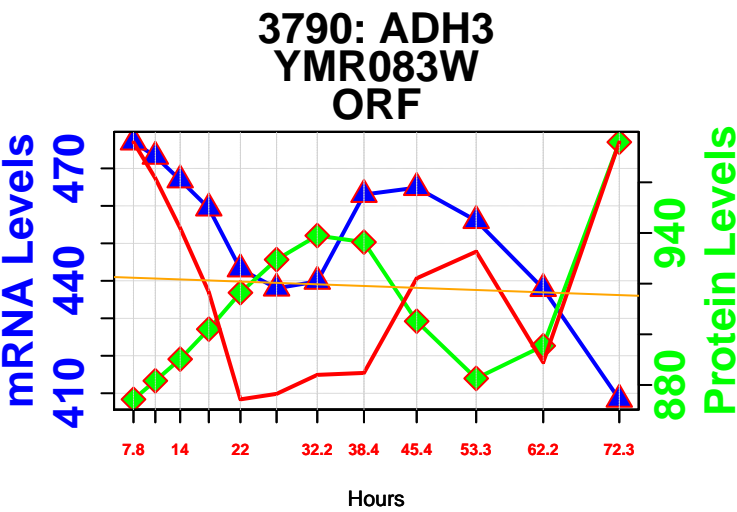
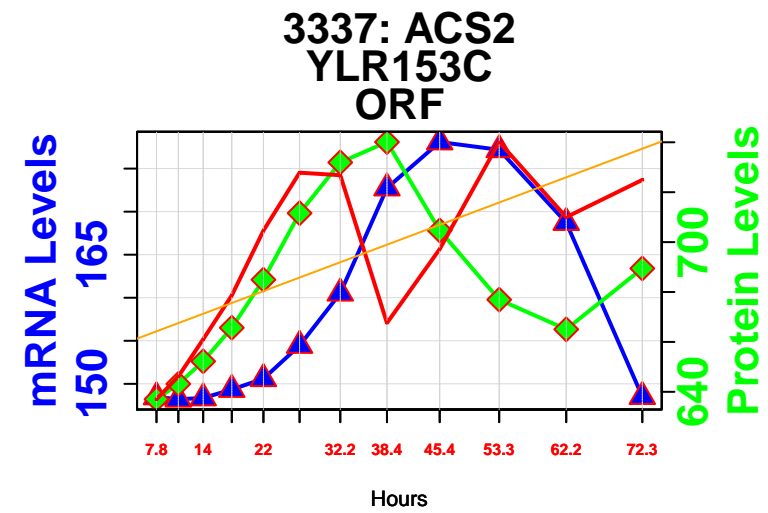
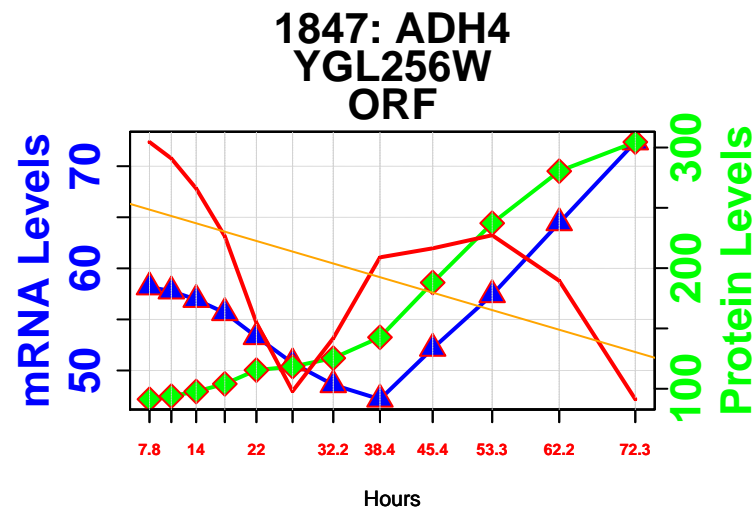
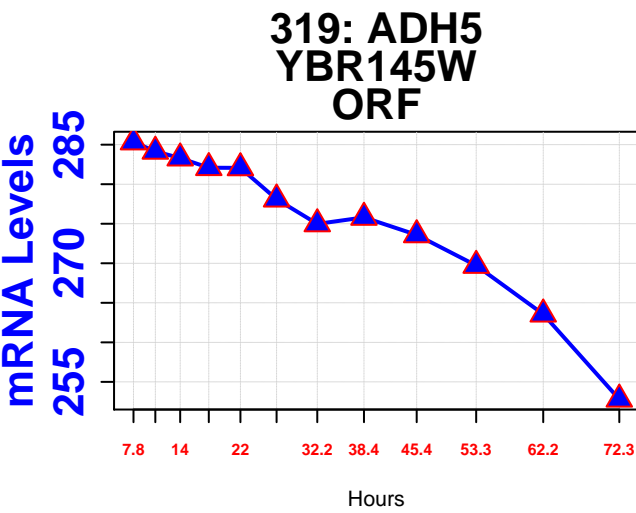
302: TPS1
YBR126C
ORF

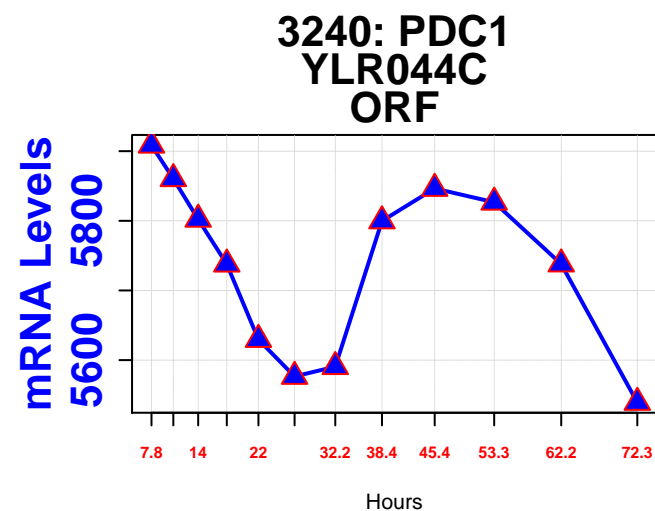
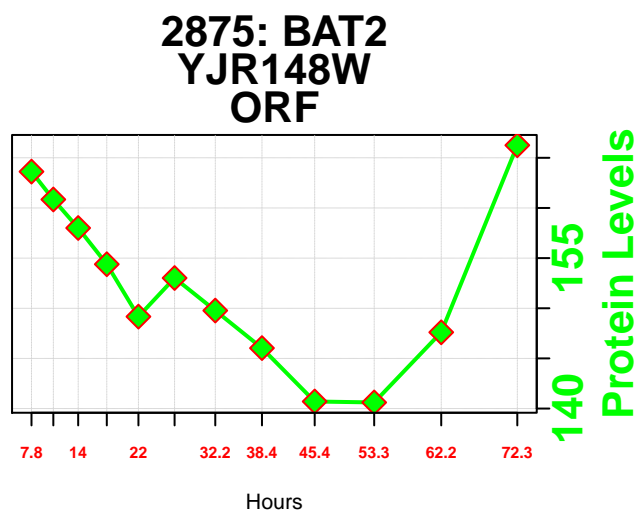
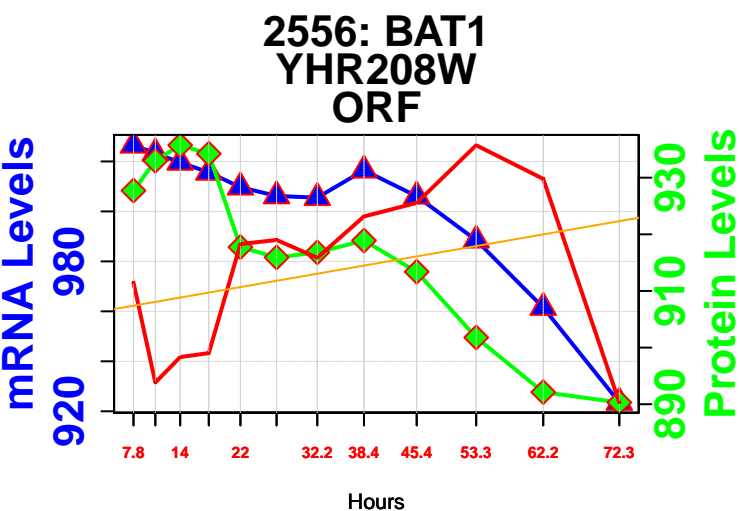
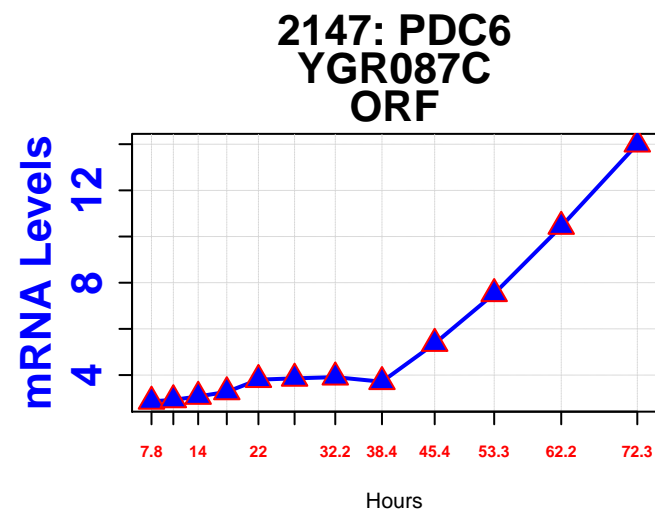
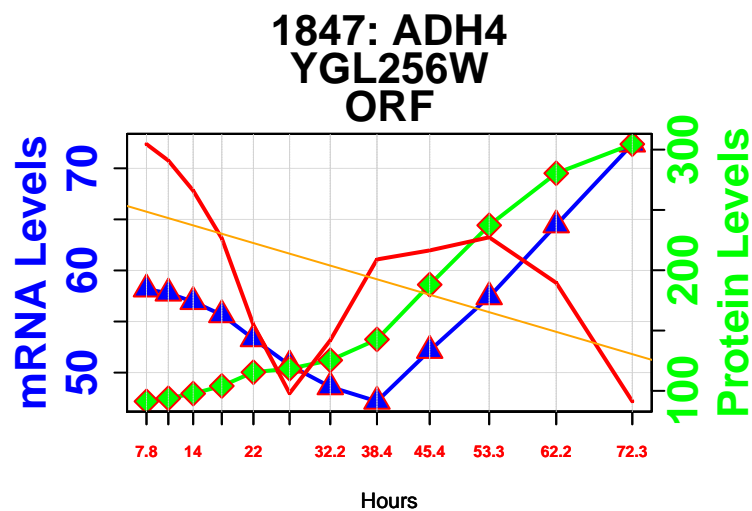
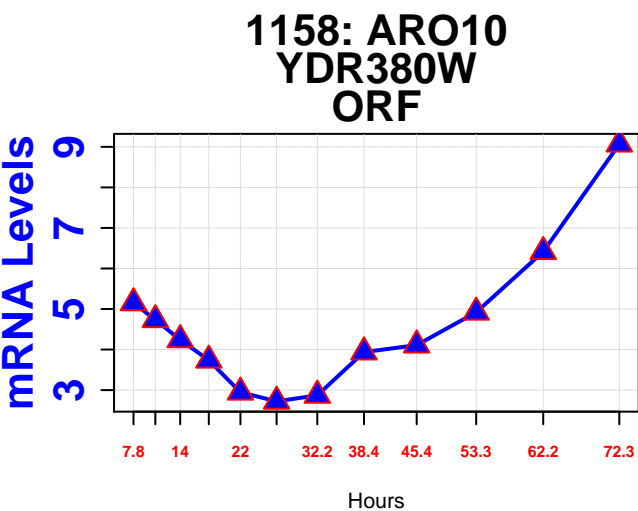
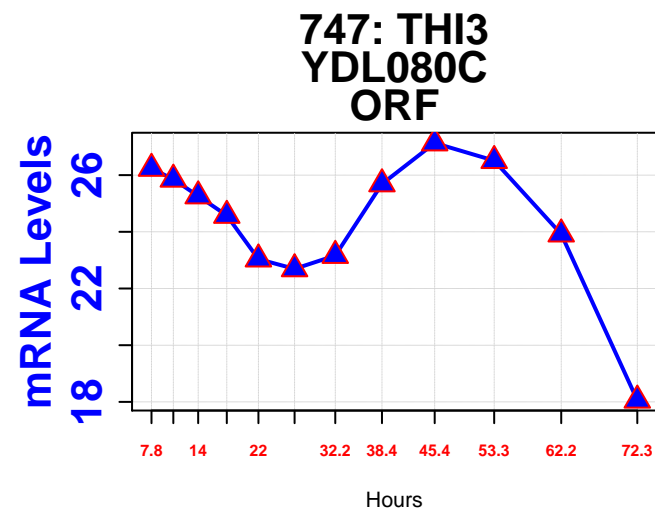
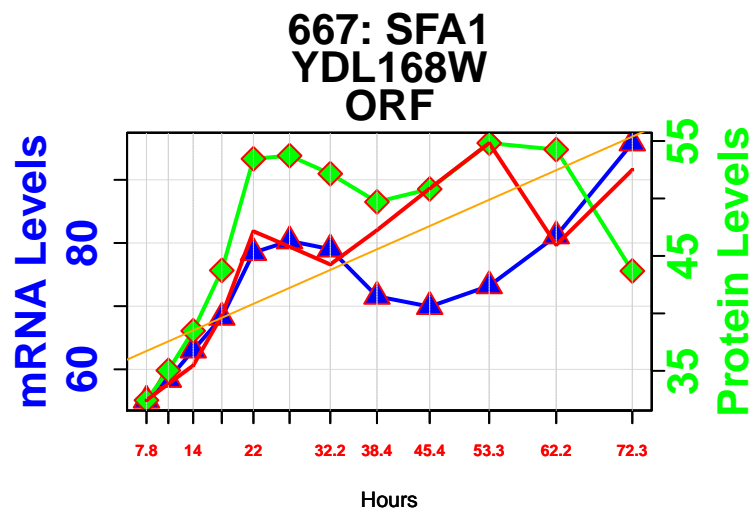
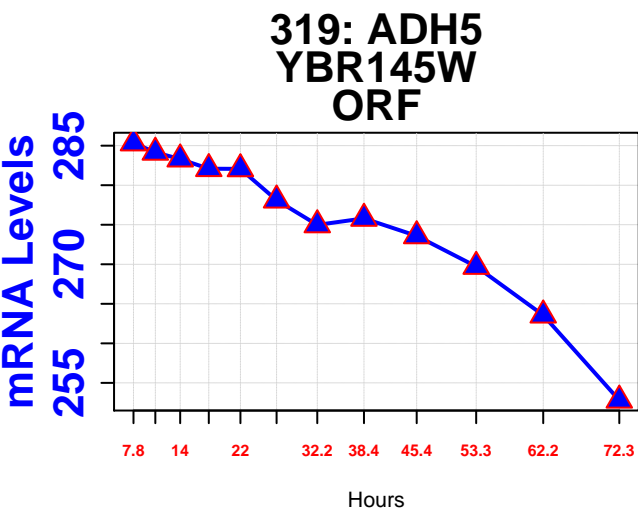


873: TPS2
YDR074W
ORF

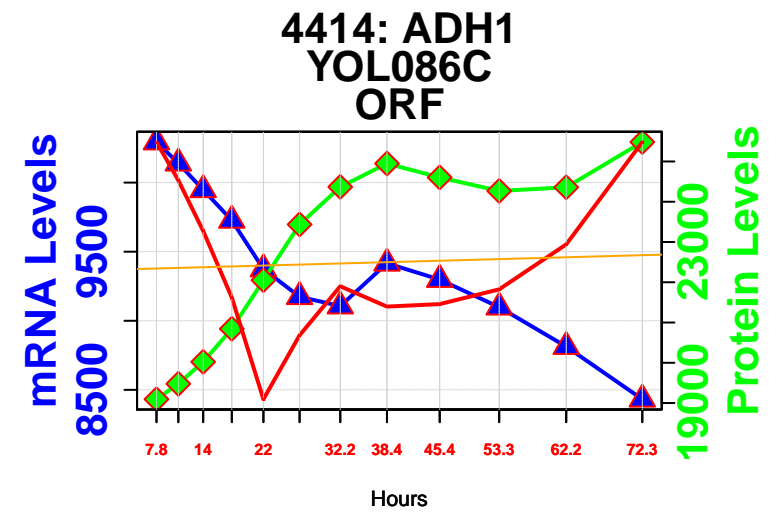
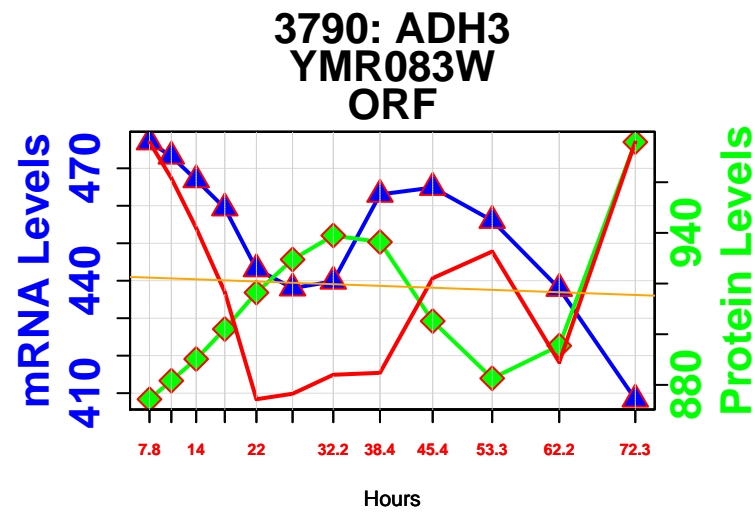
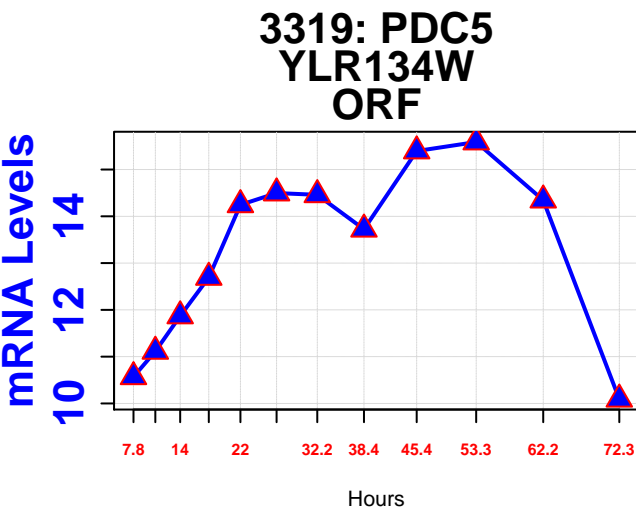


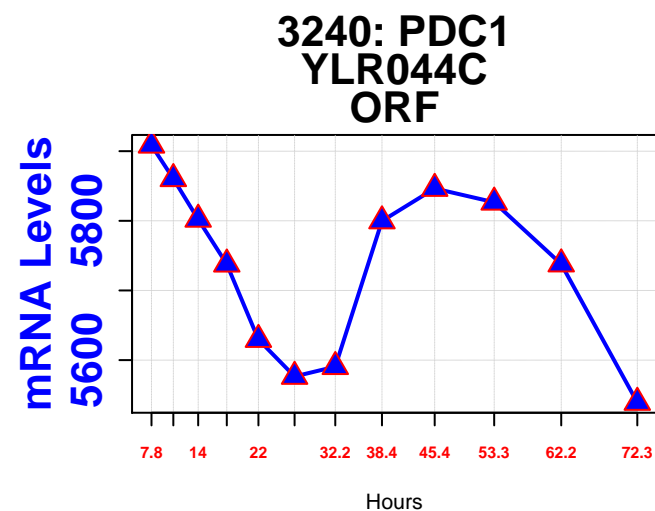
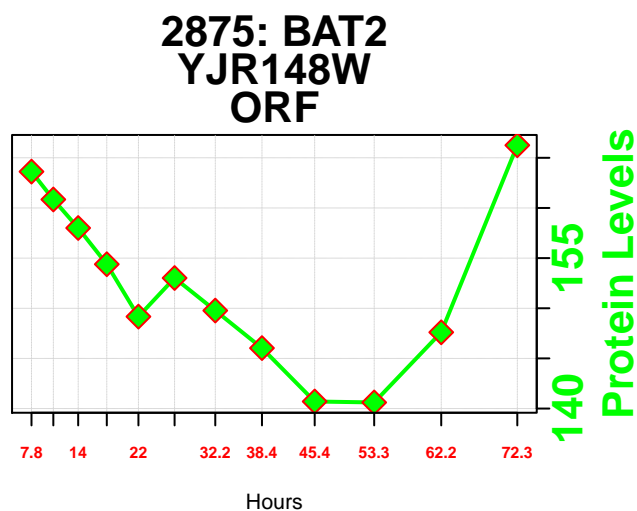
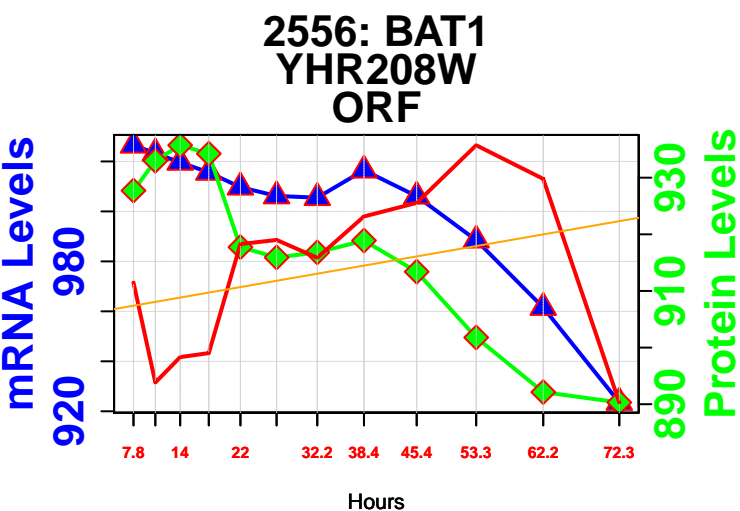
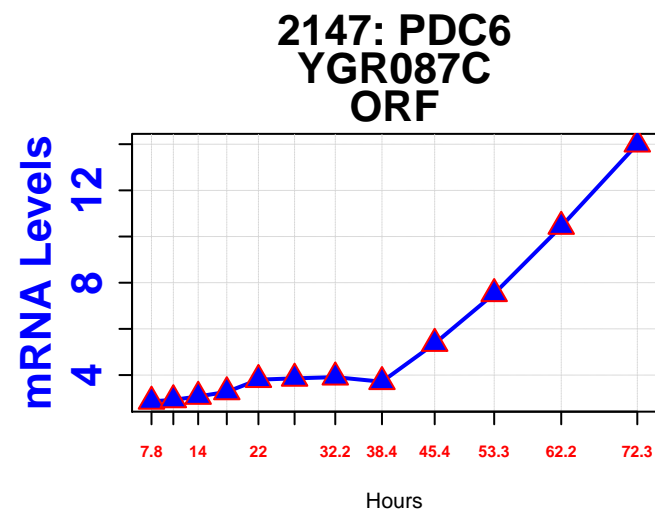
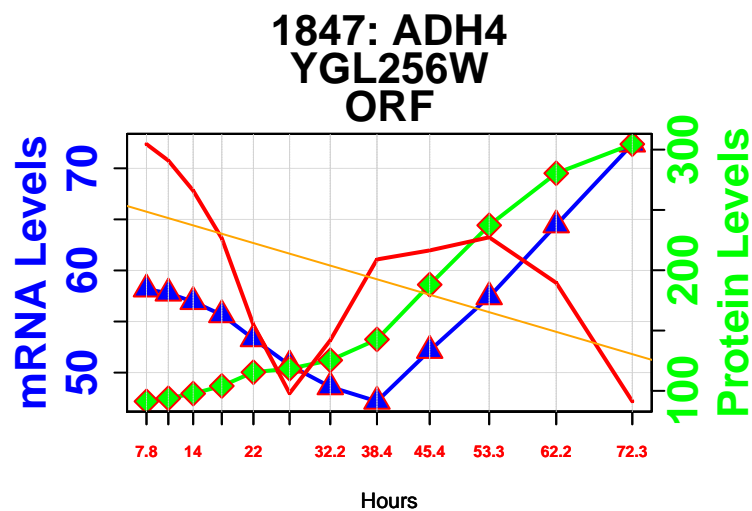
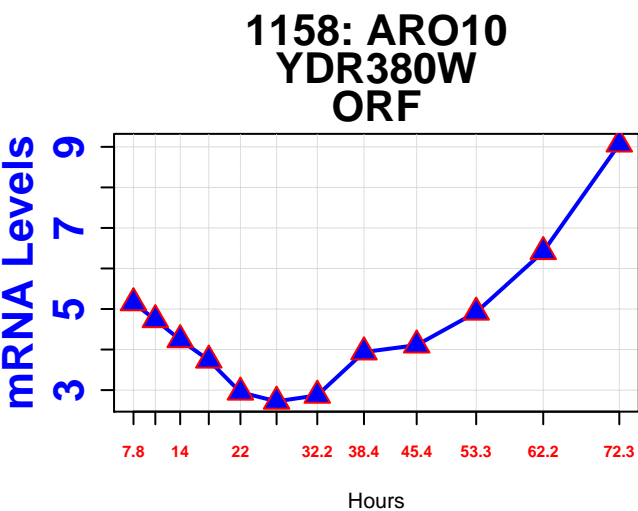
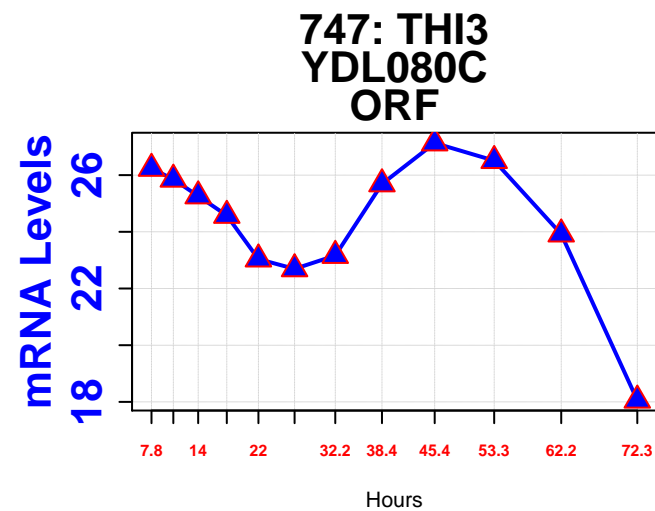
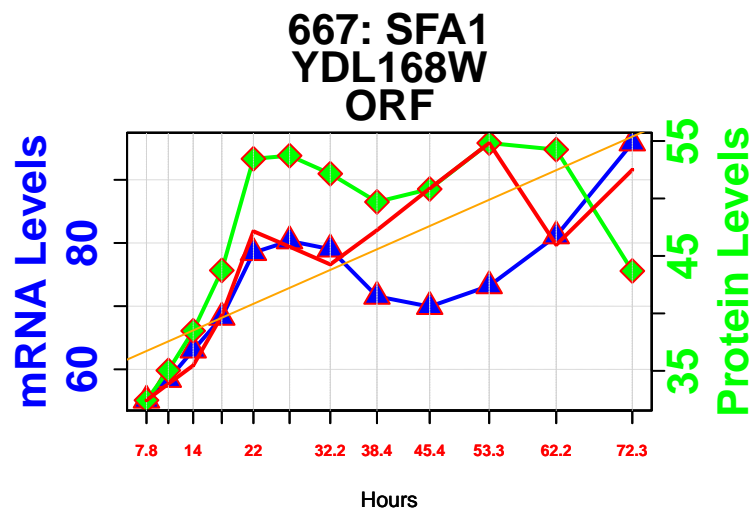
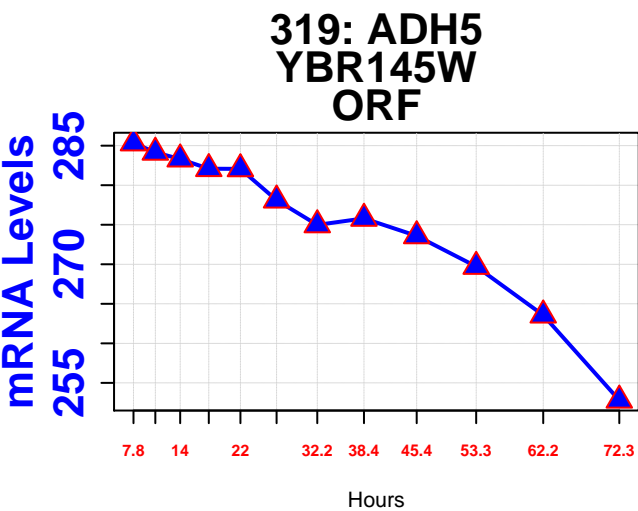
ethanol degradation



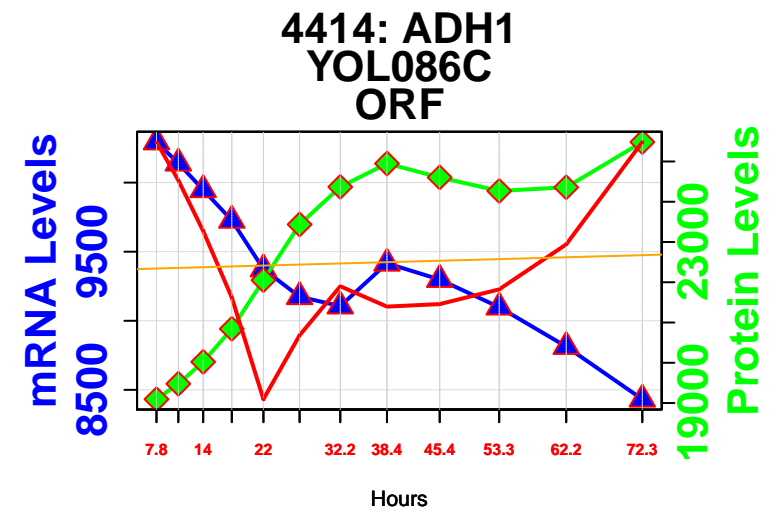
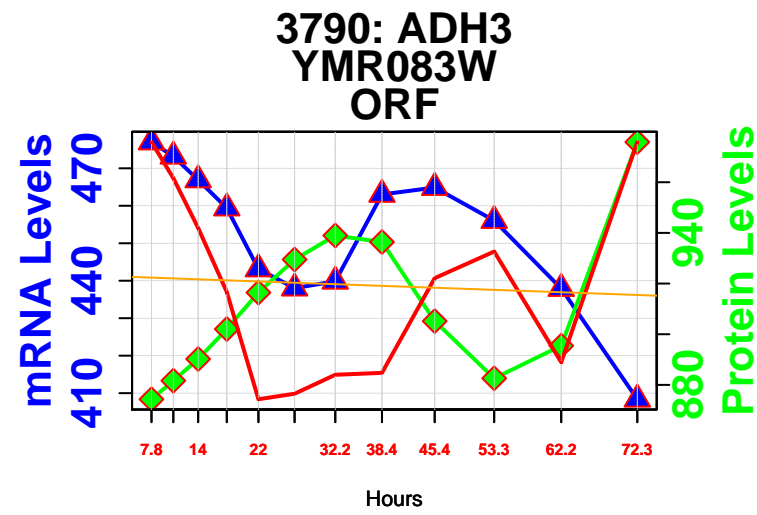
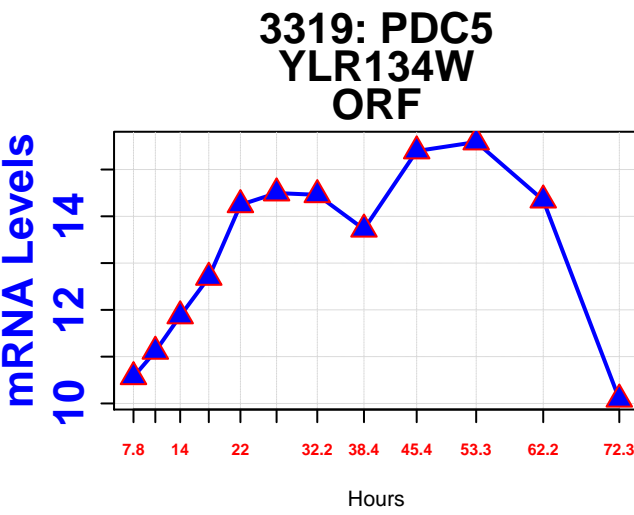


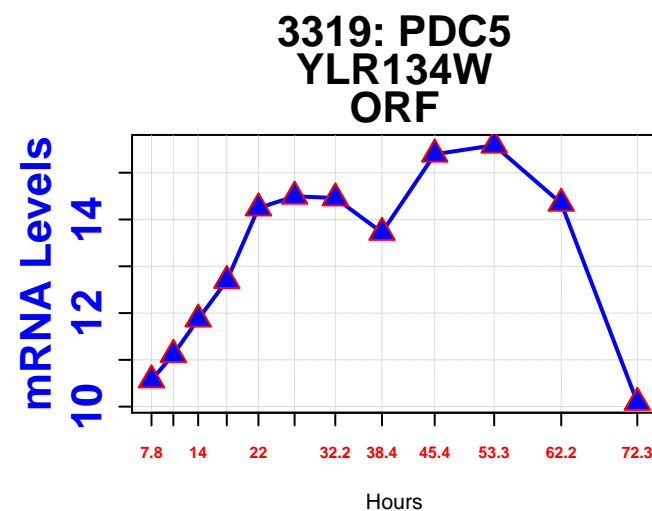
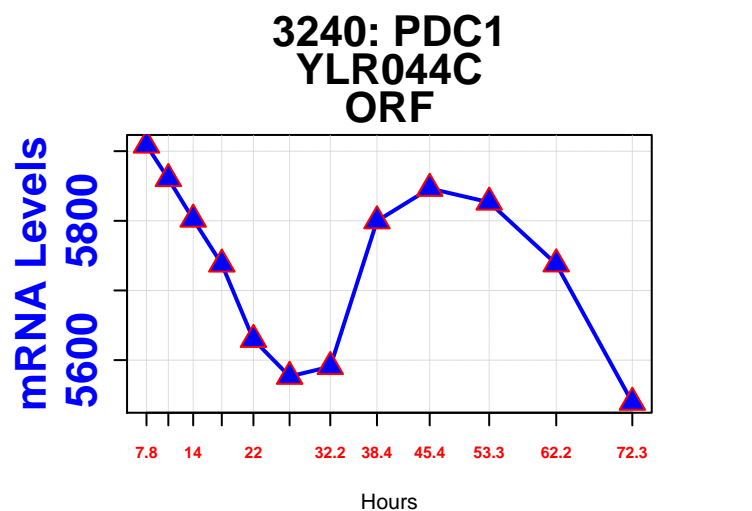
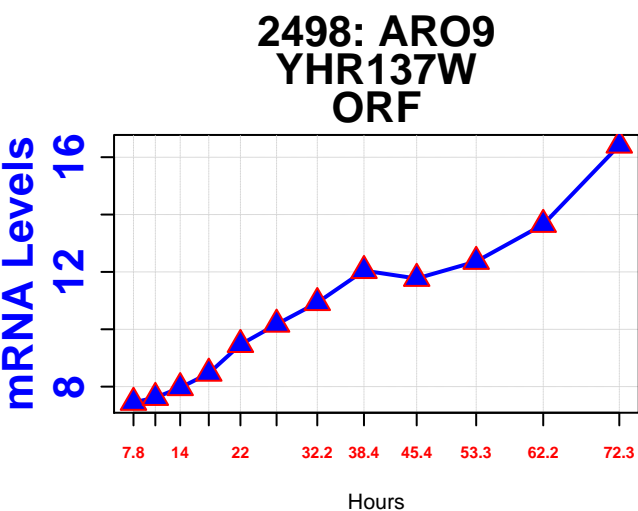
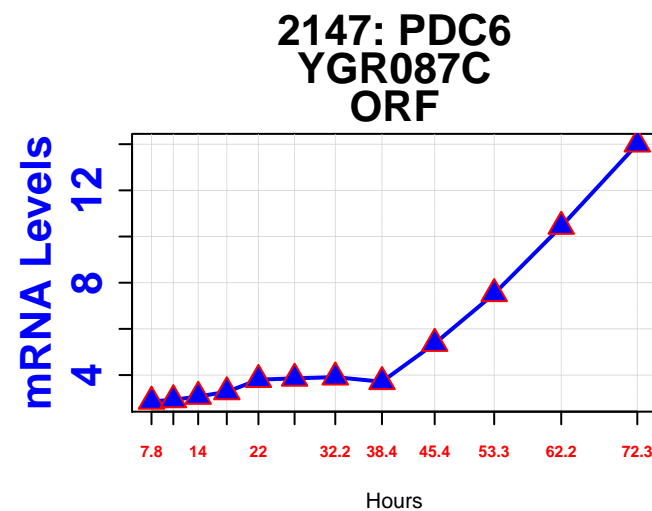
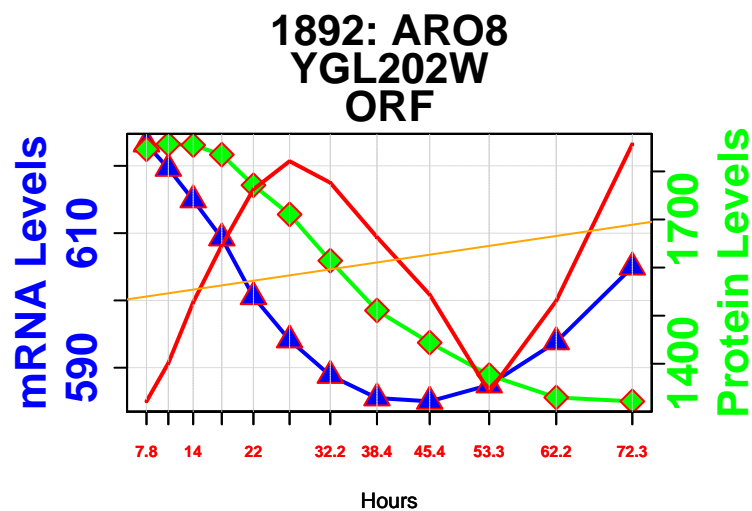
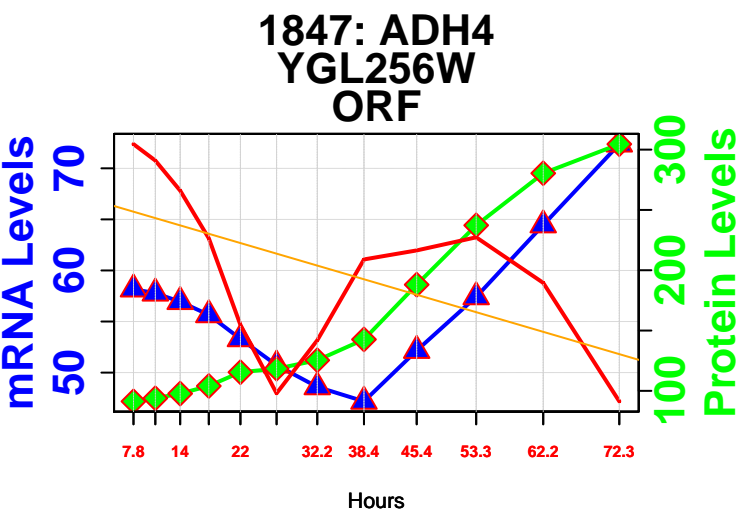
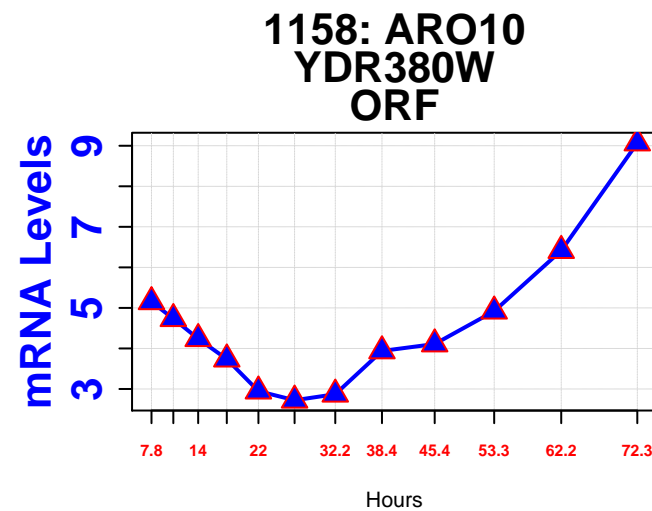
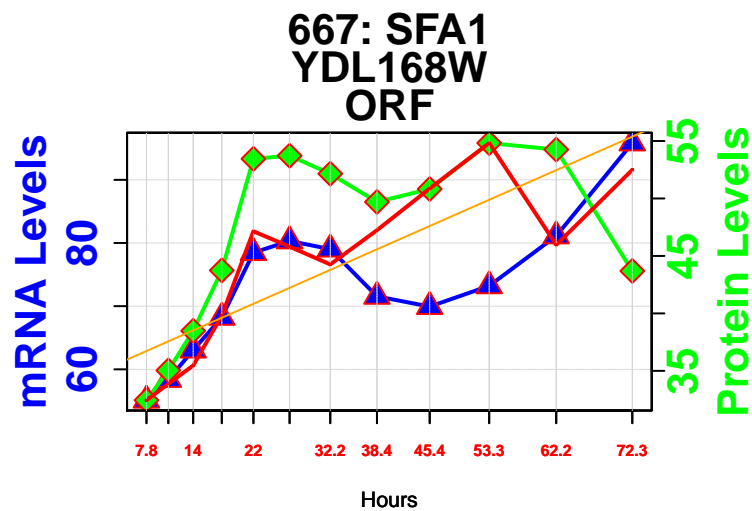
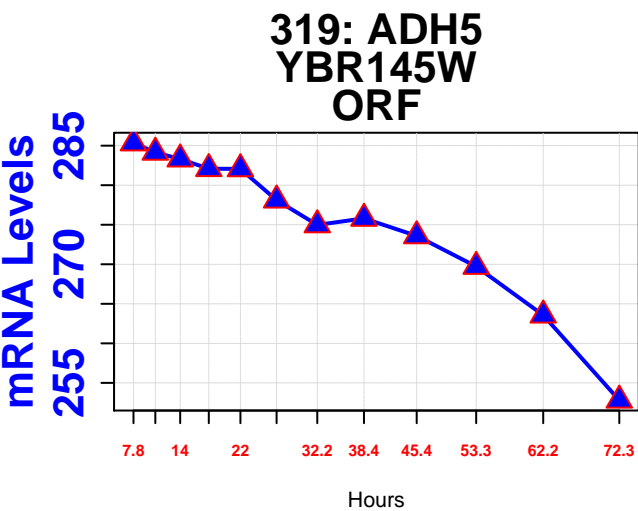
isoleucine degradation





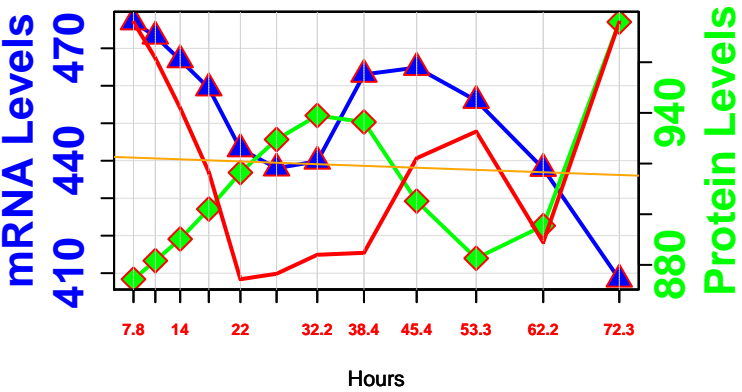
leucine degradation



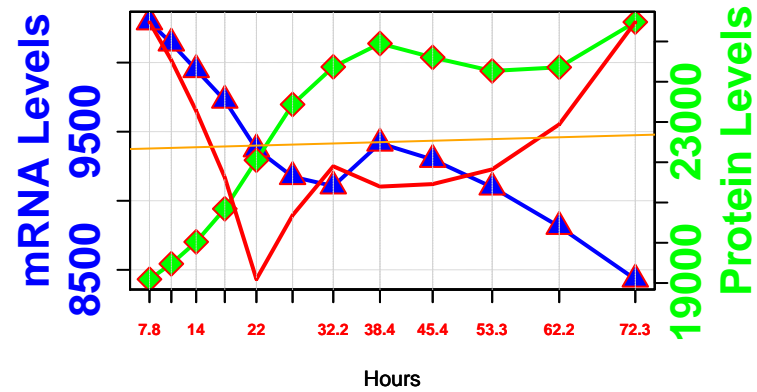


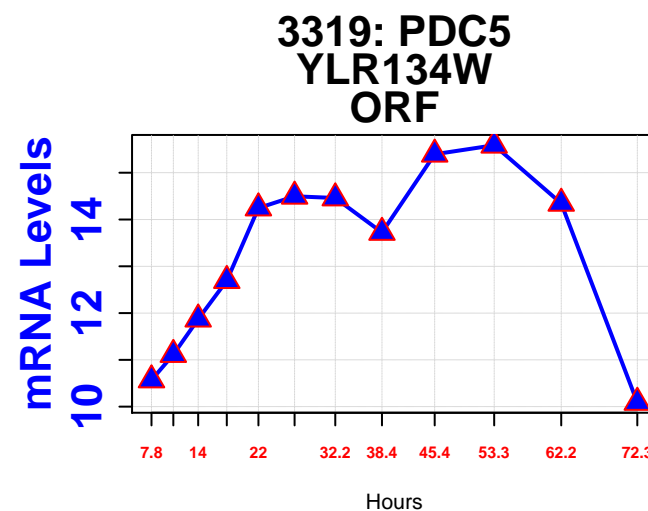
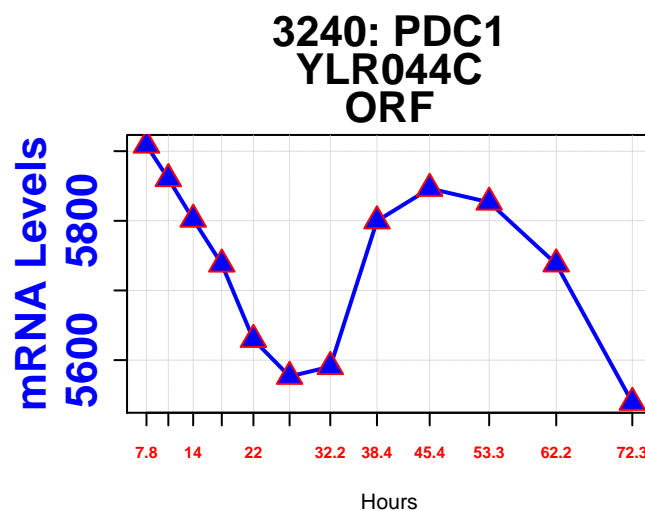
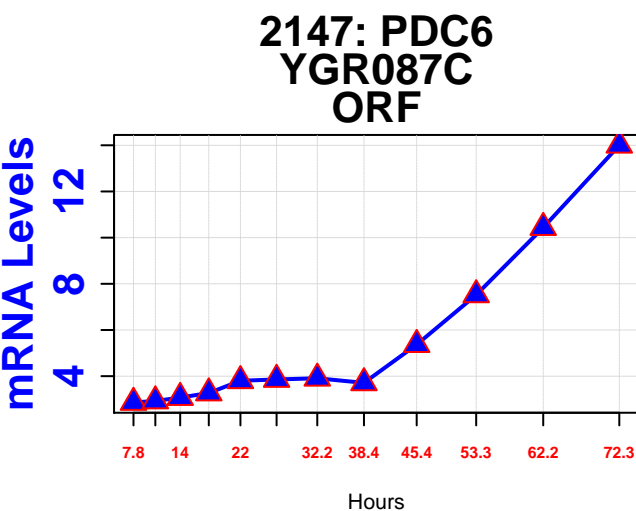
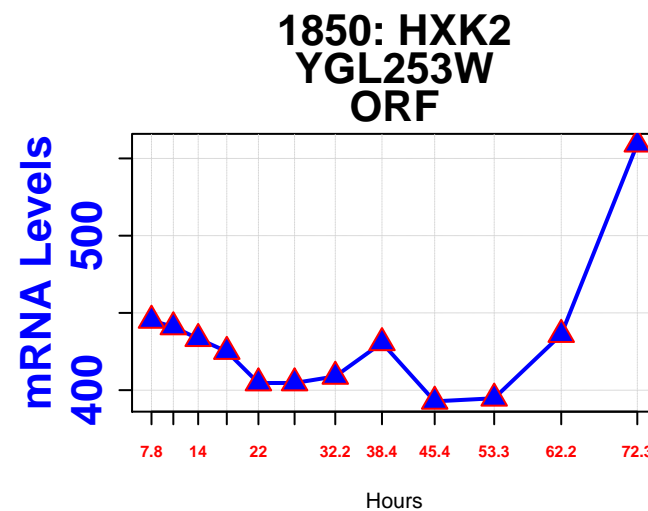
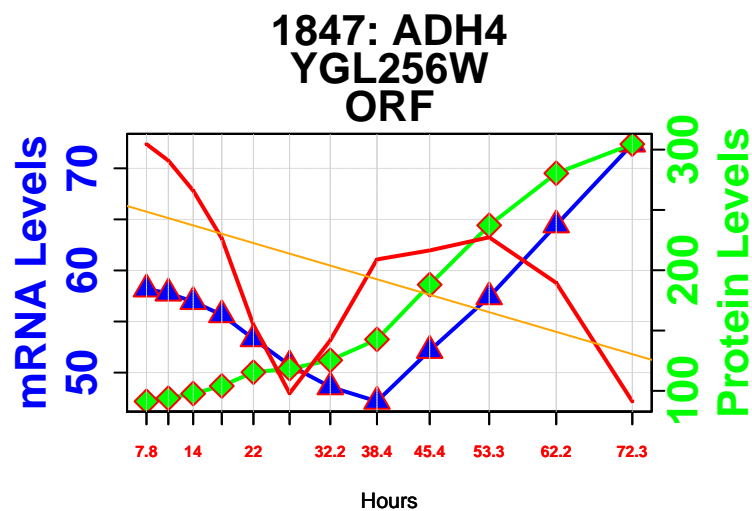
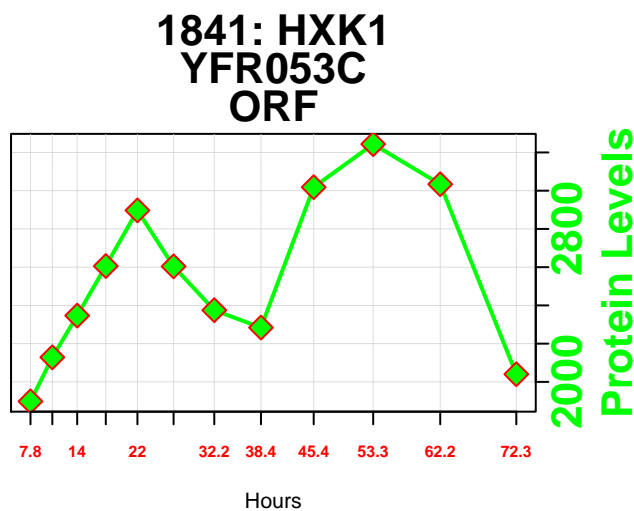
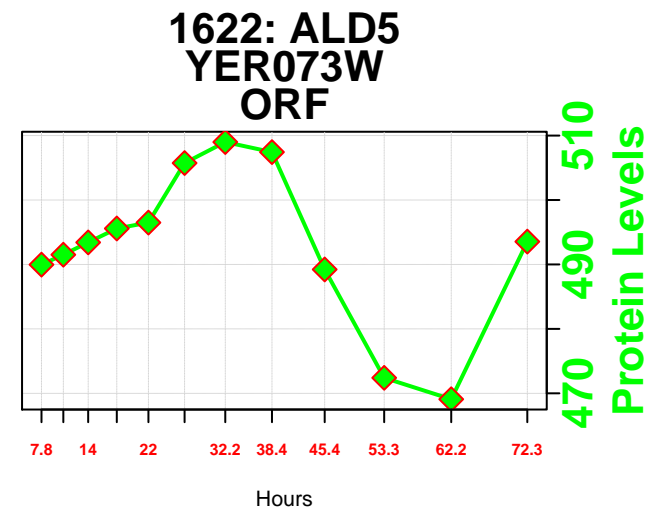
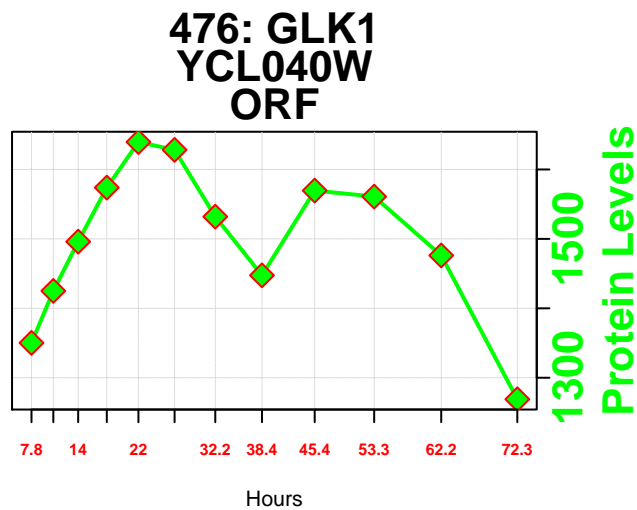
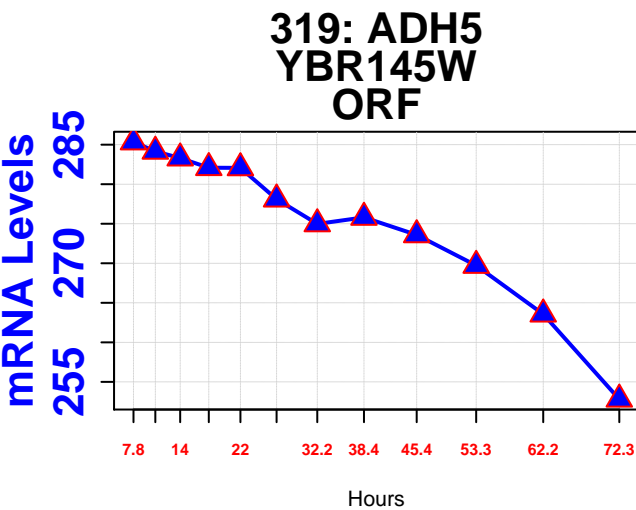
phenylalanine degradation

3790: ADH3
YMR083W
ORF

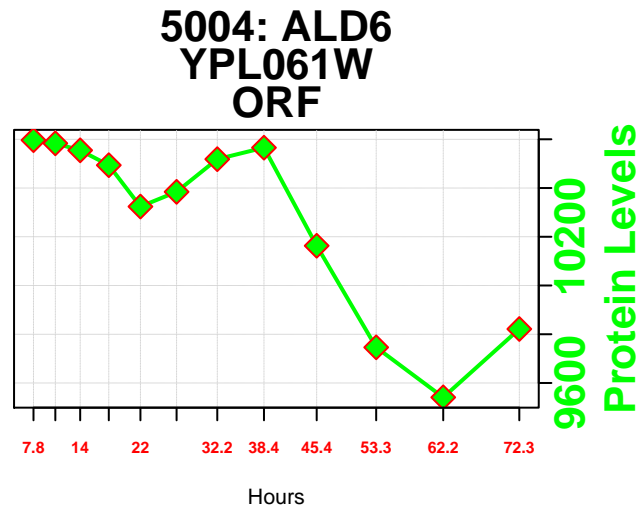
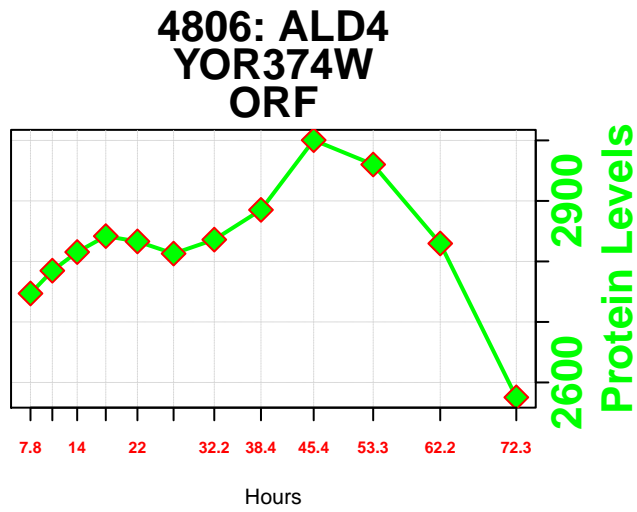
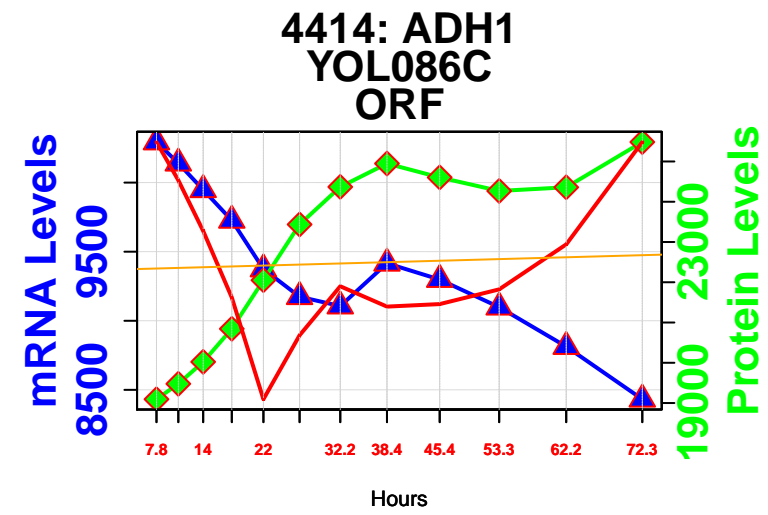
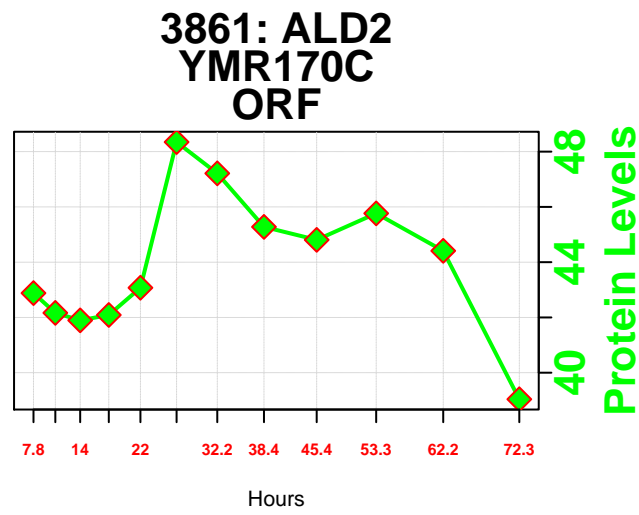
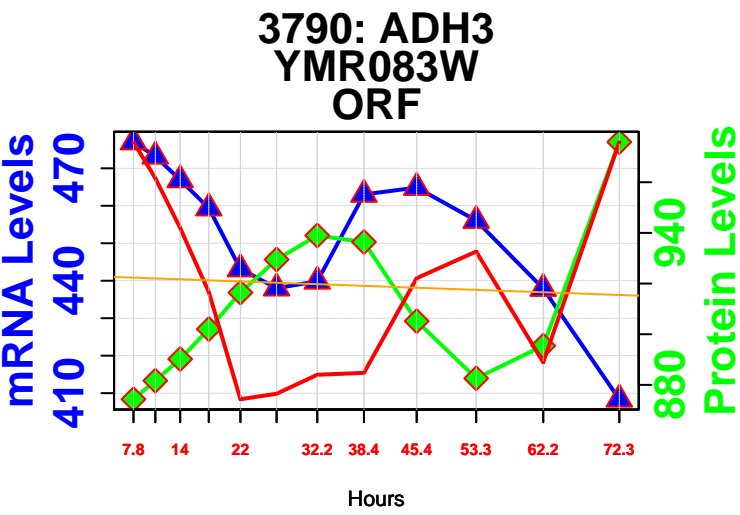


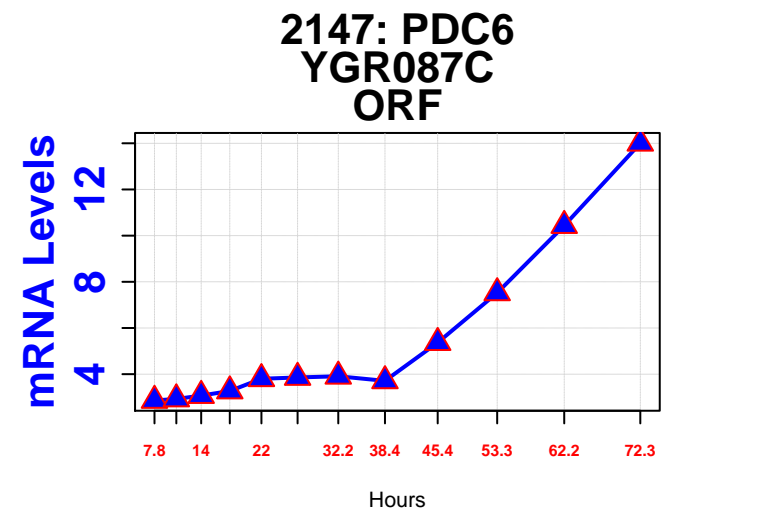
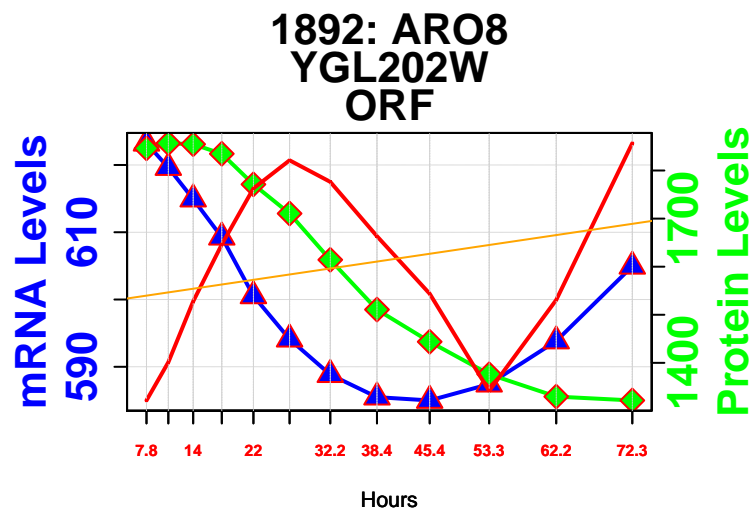
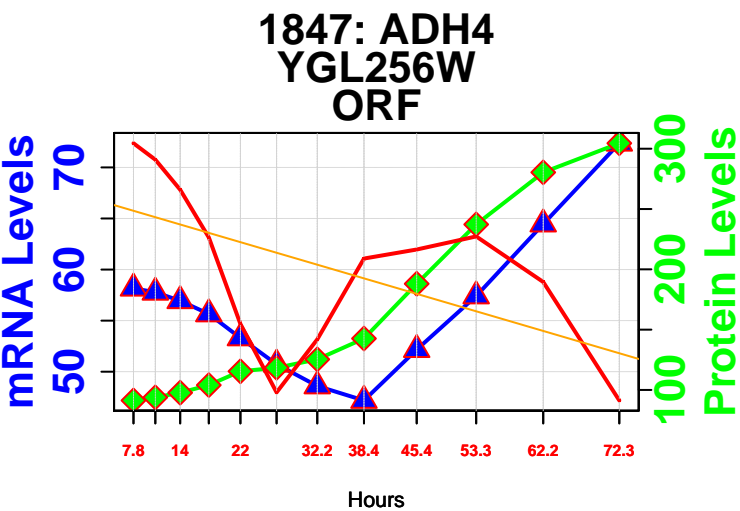
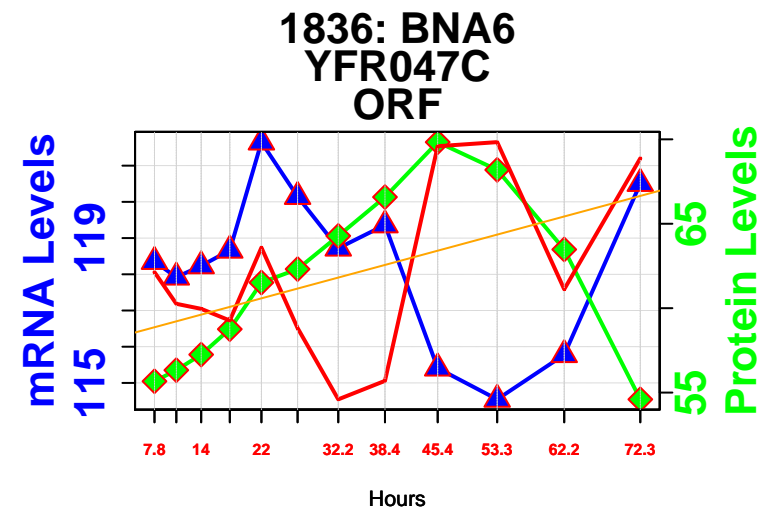
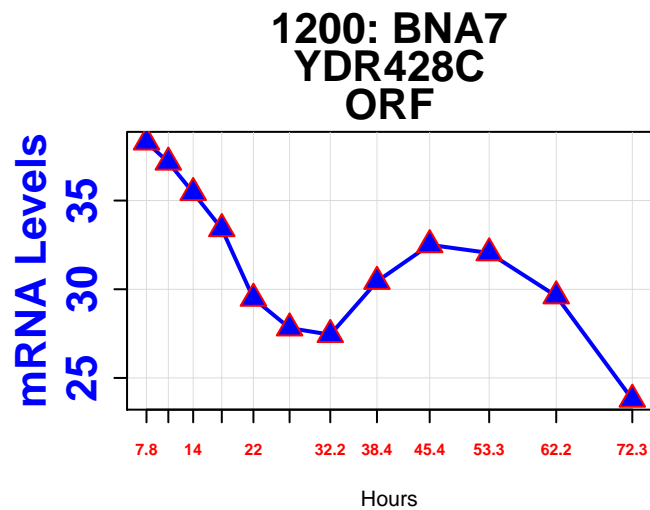
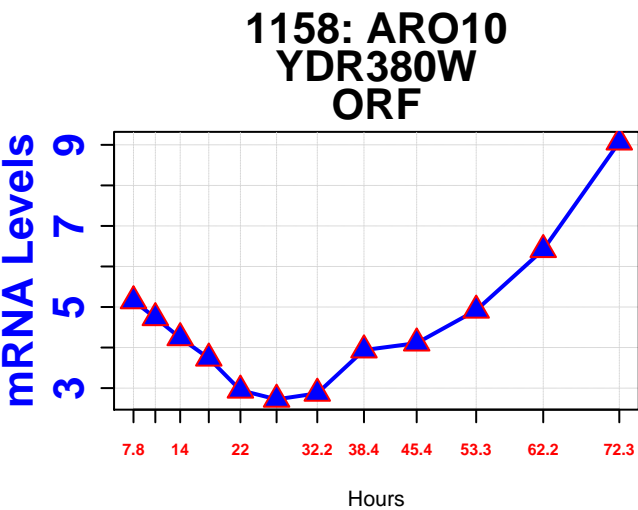
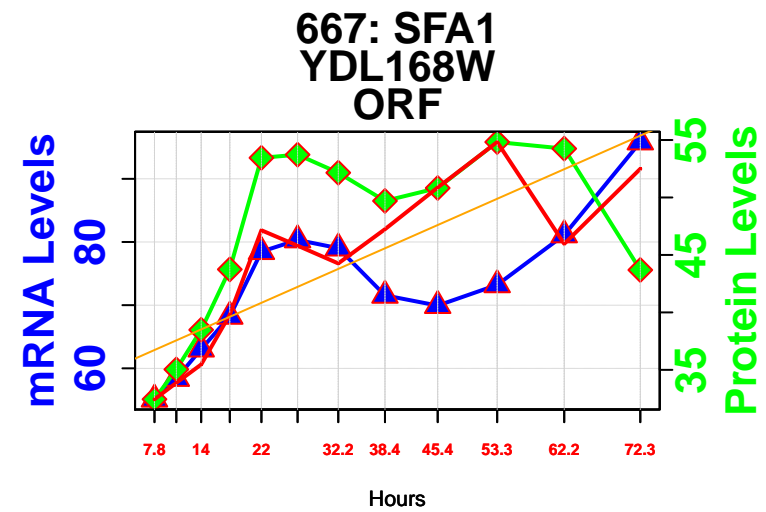
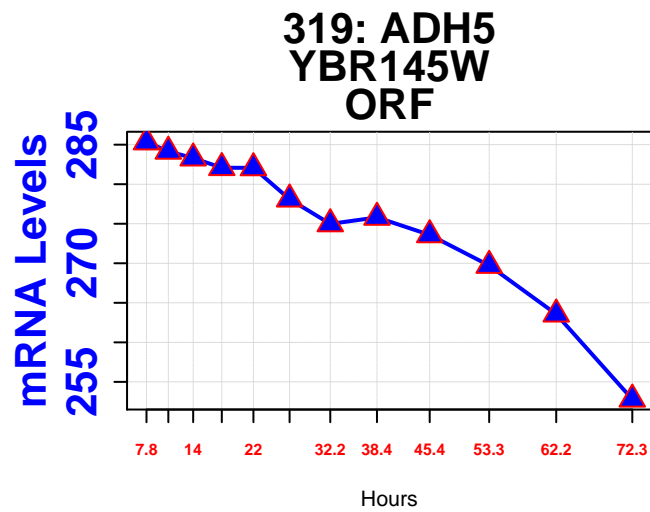
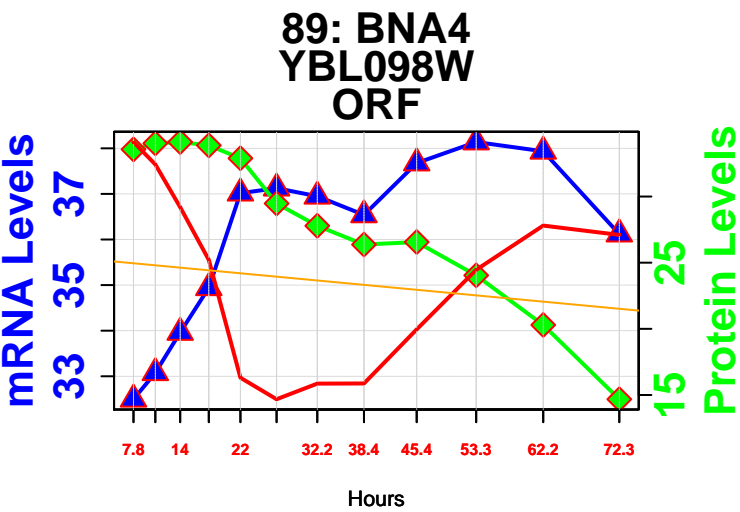
4414: ADH1
YOL086C
ORF





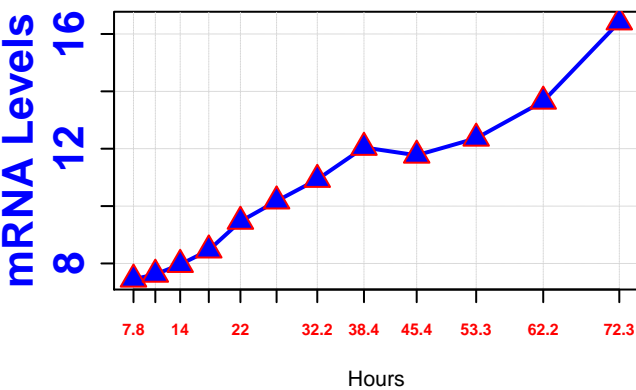
superpathway of glucose fermentation



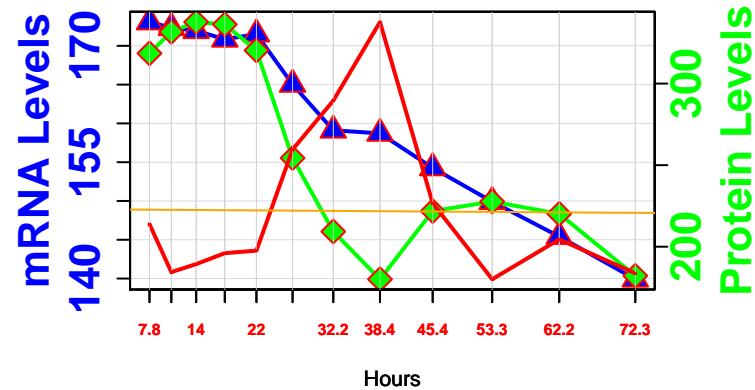


tryptophan degradation

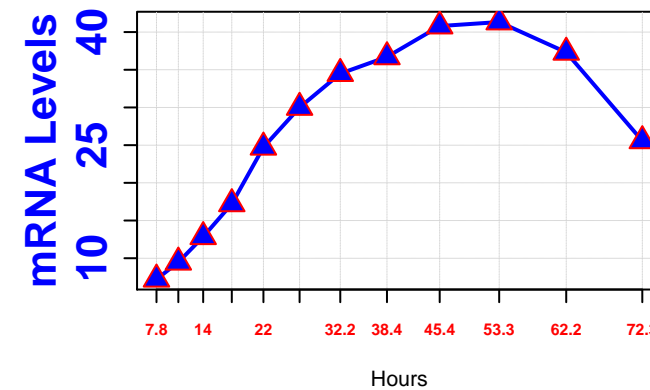
2498: ARO9
YHR137W
ORF



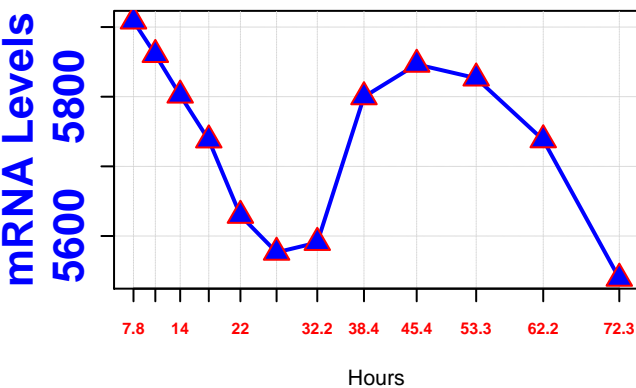
2764: BNA1
YJR025C
ORF



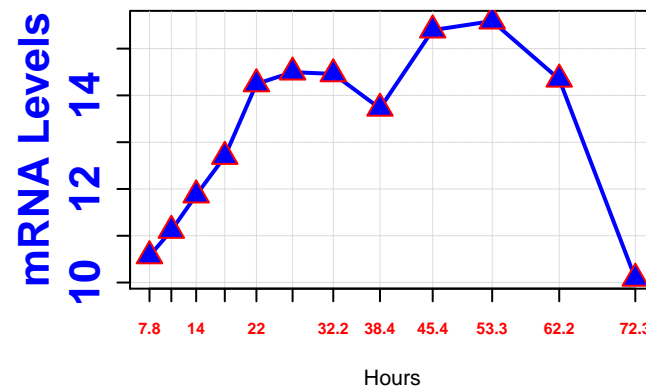
2807: BNA2
YJR078W
ORF



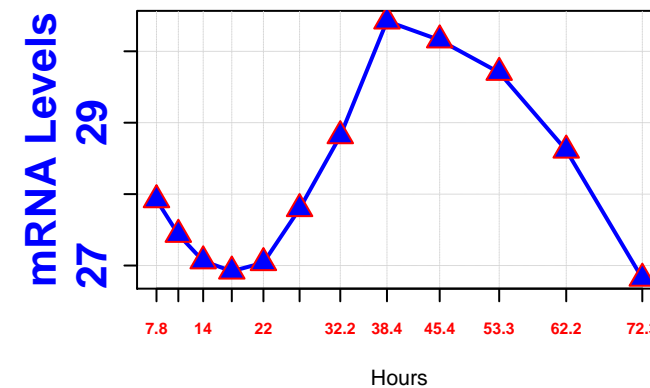
3240: PDC1
YLR044C
ORF



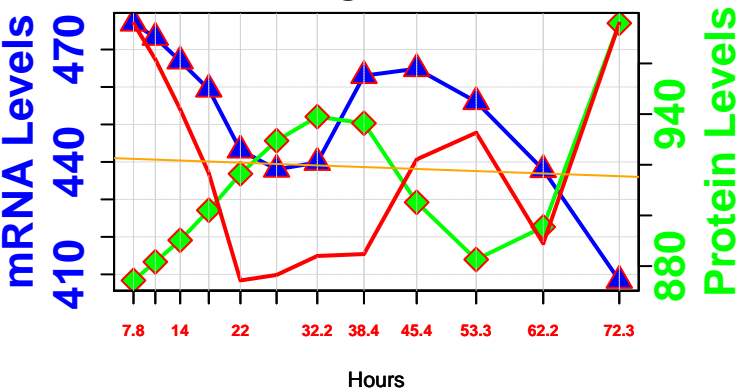
3319: PDC5
YLR134W
ORF



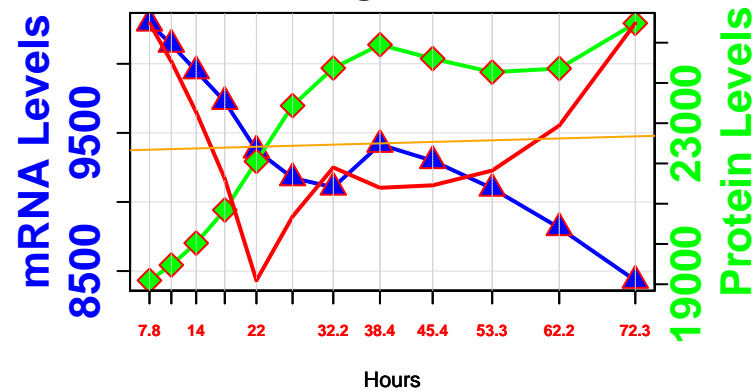
3396: BNA5
YLR231C
ORF

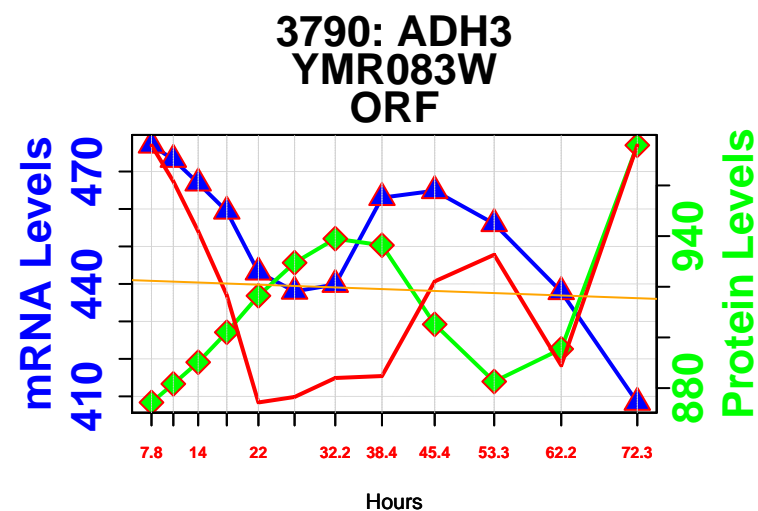
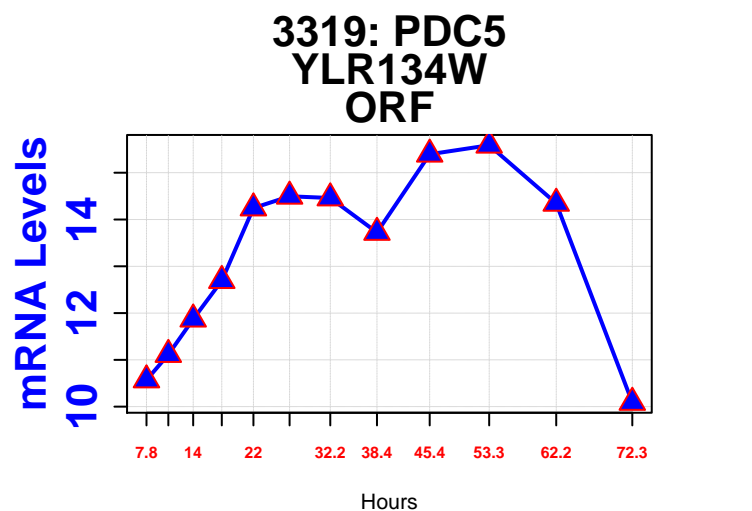
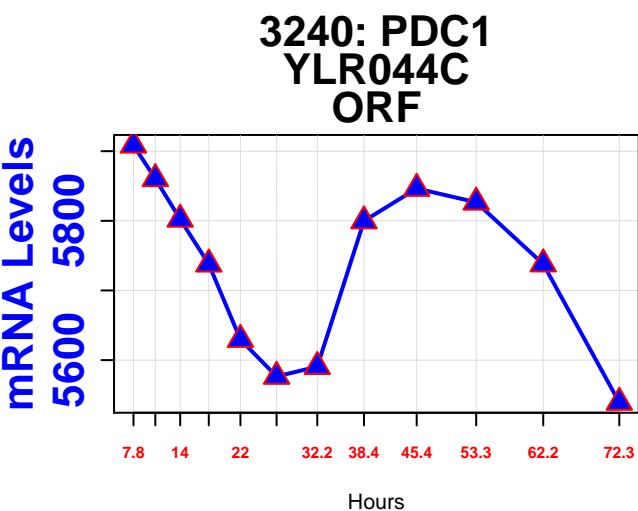
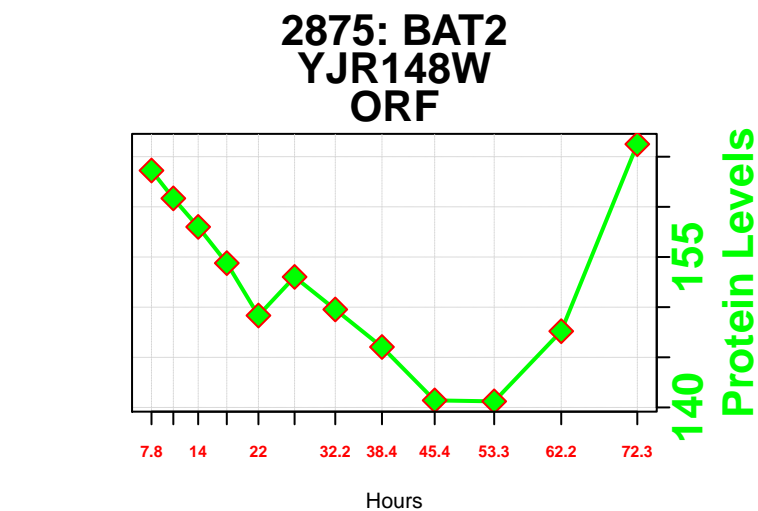
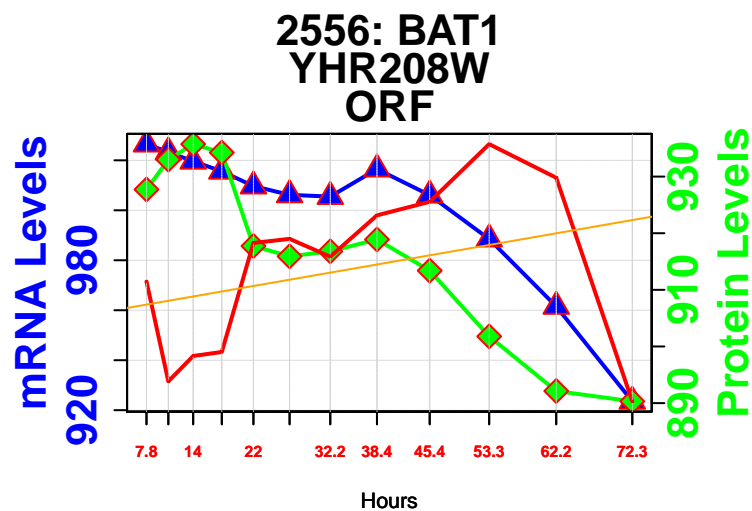
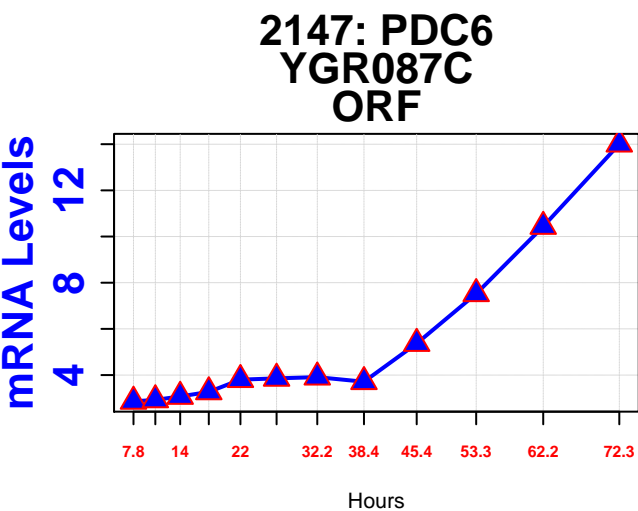
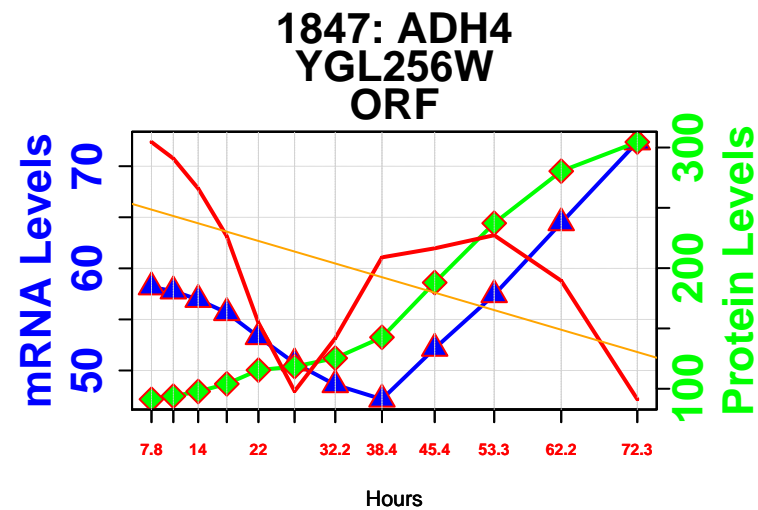
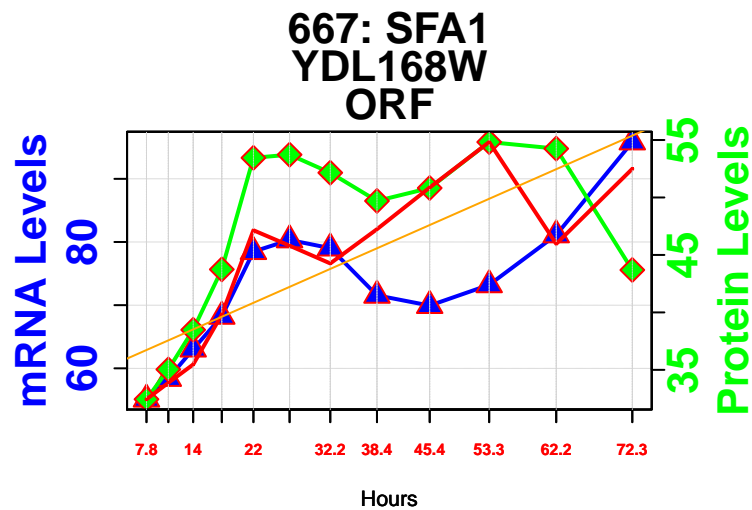
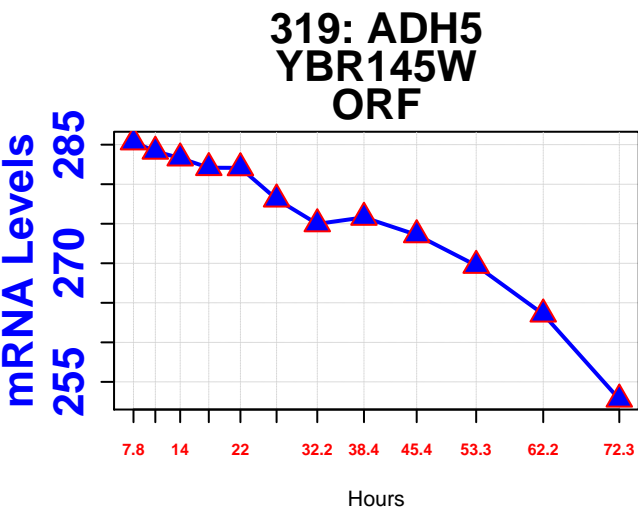


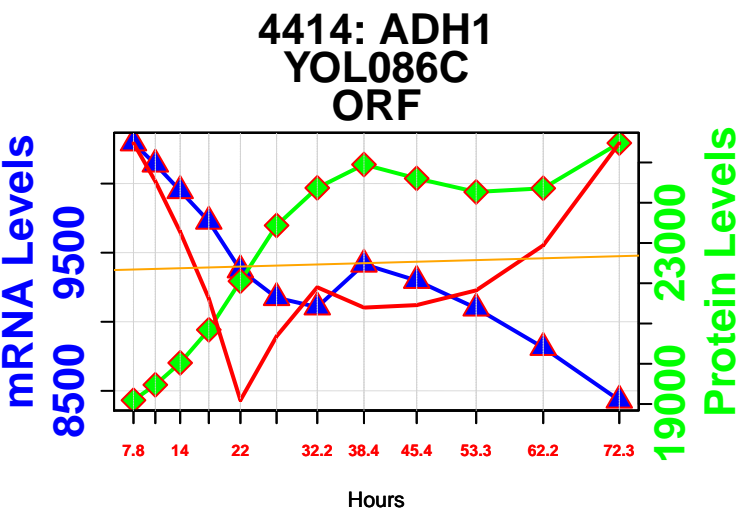
3790: ADH3
YMR083W
ORF



4414: ADH1
YOL086C
ORF

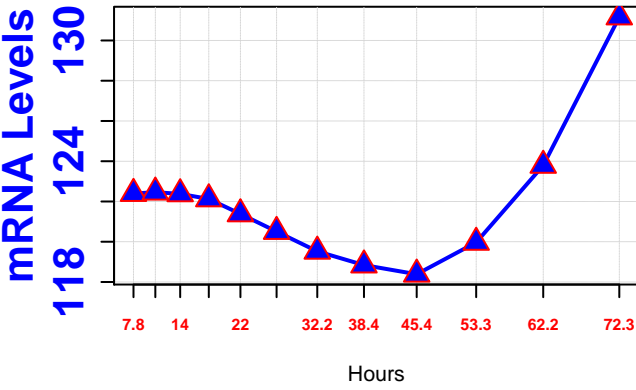




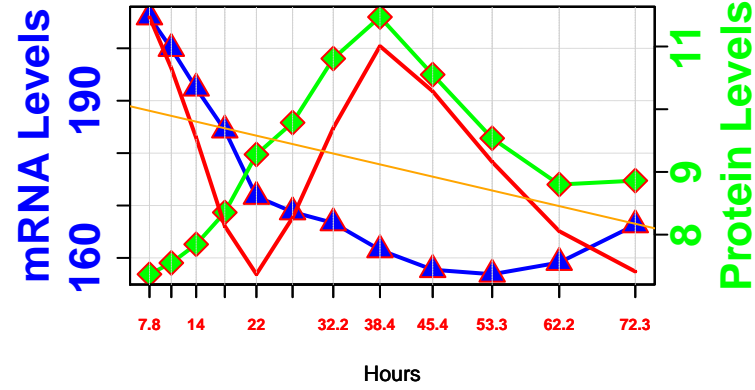


very long chain fatty acid biosynthesis

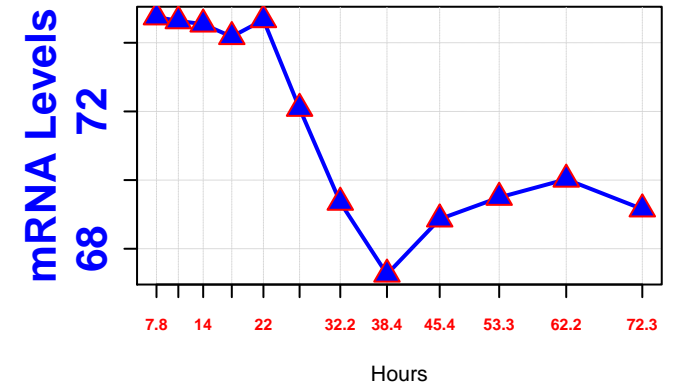
328: IFA38
YBR159W
ORF



798: TSC13
YDL015C
ORF

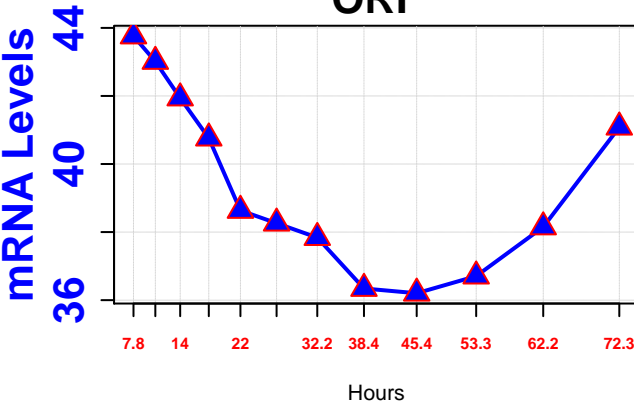


2661: PHS1
YJL097W
ORF

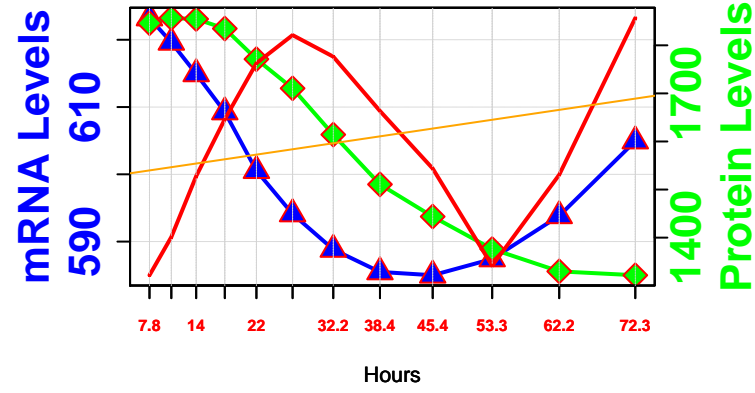


tyrosine biosynthesis

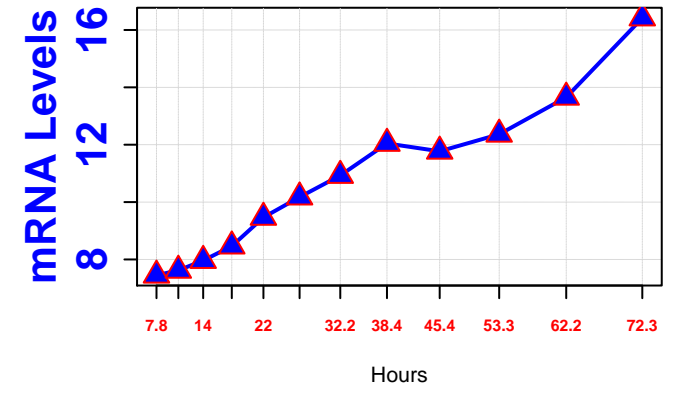
336: TYR1
YBR166C
ORF



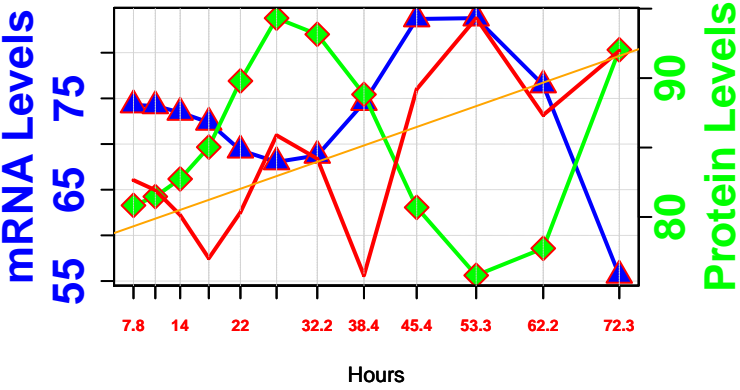
1892: ARO8
YGL202W
ORF



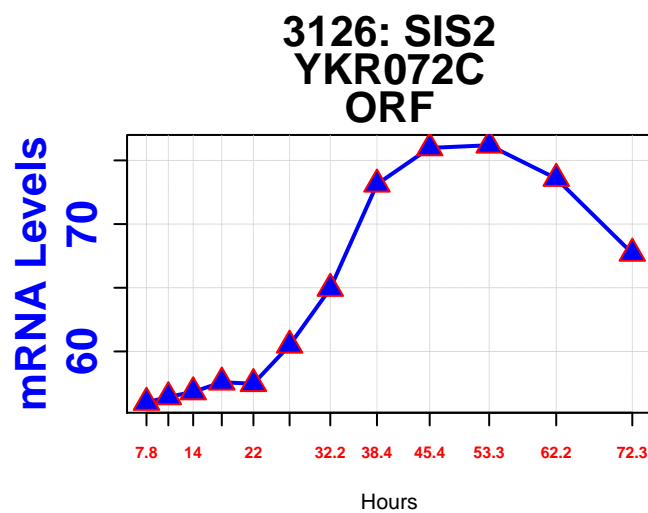
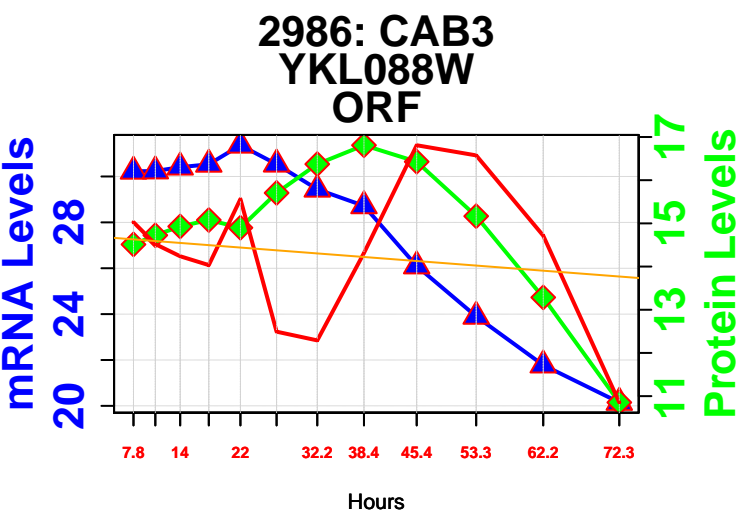
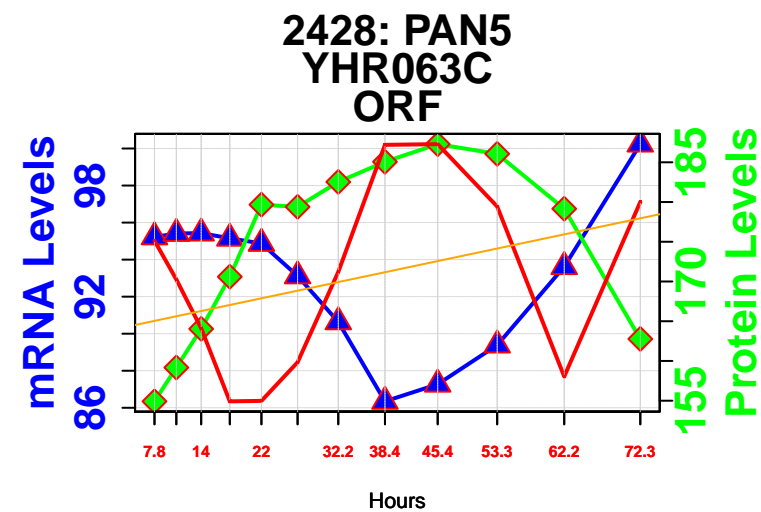
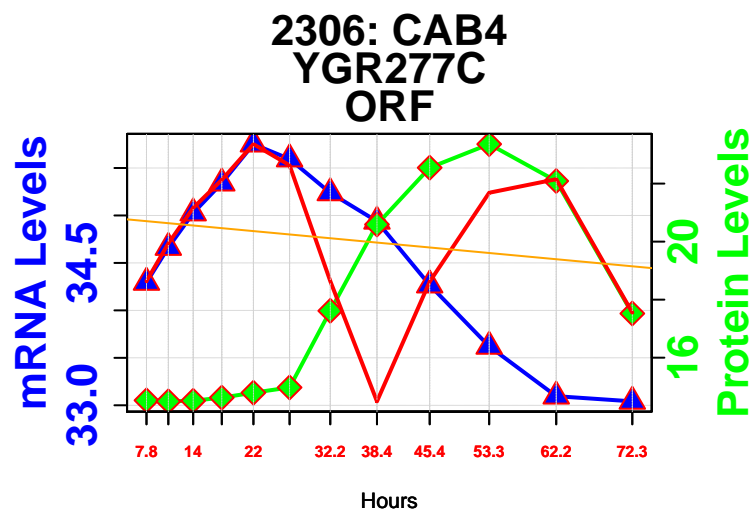
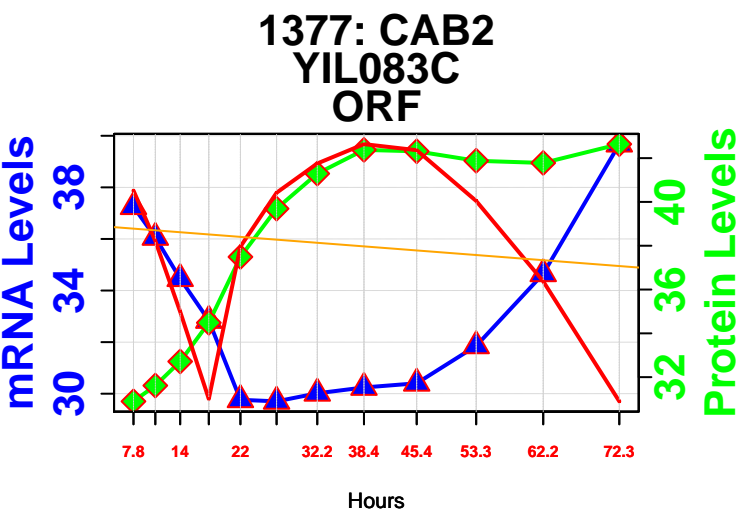
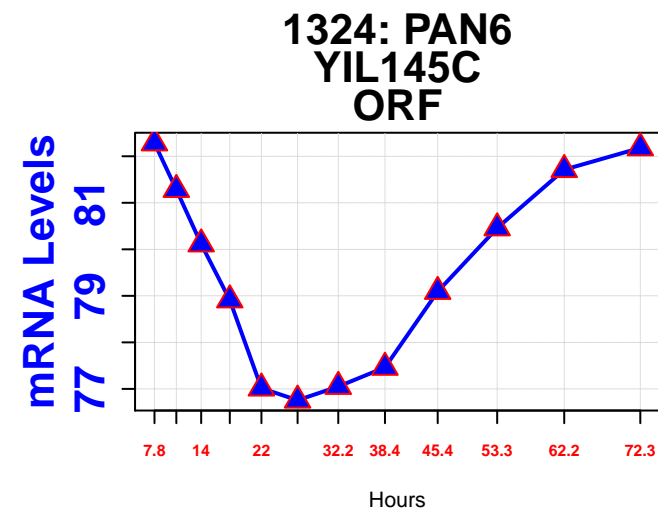
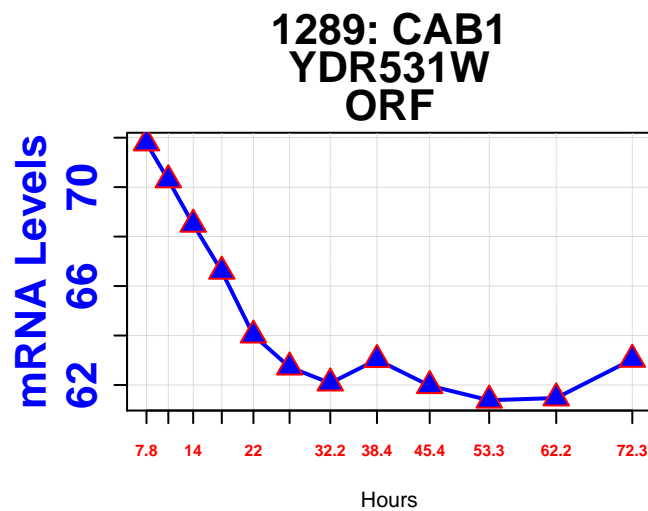
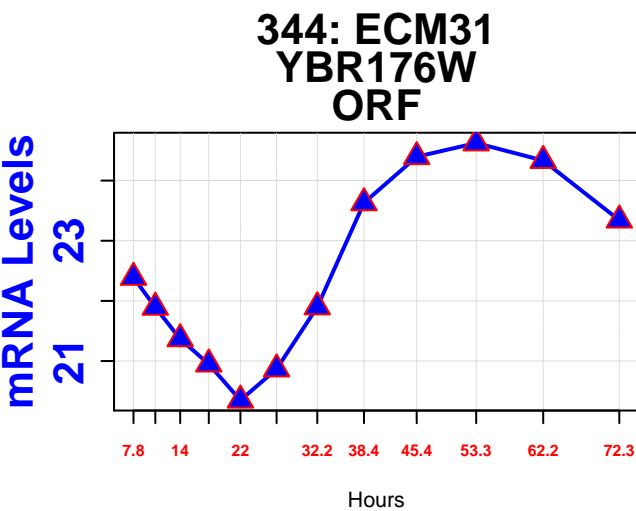
2498: ARO9
YHR137W
ORF

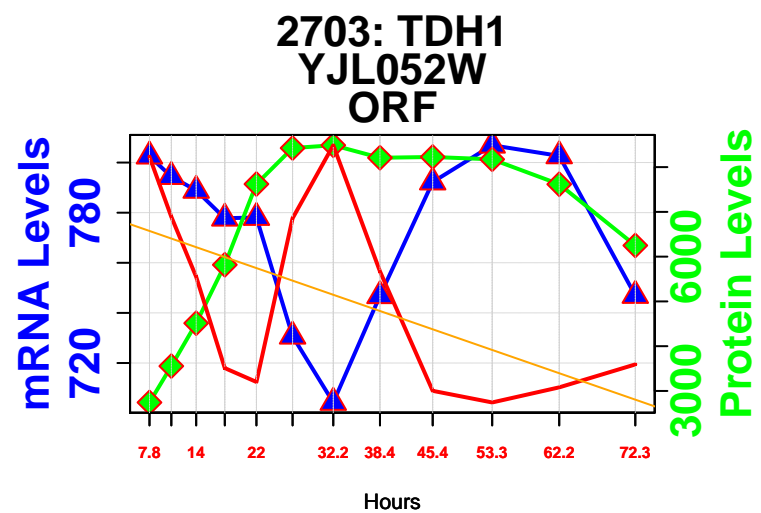
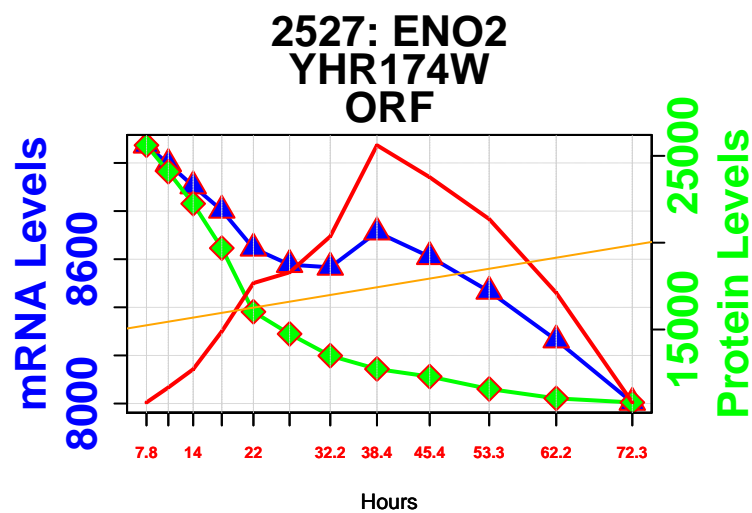
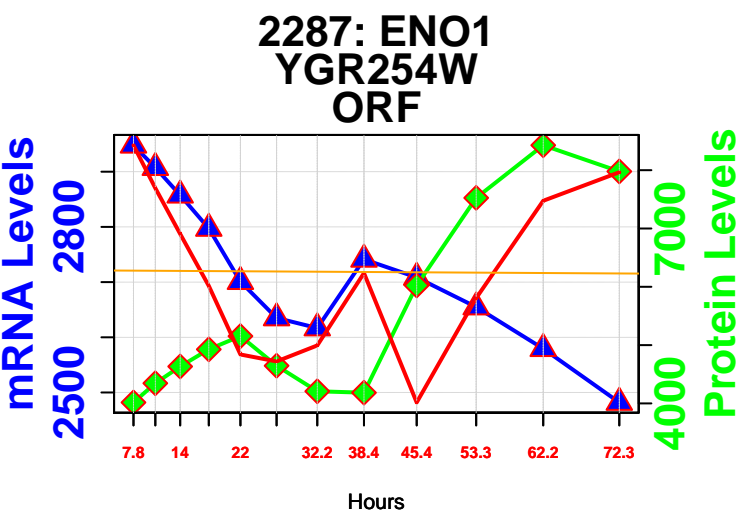
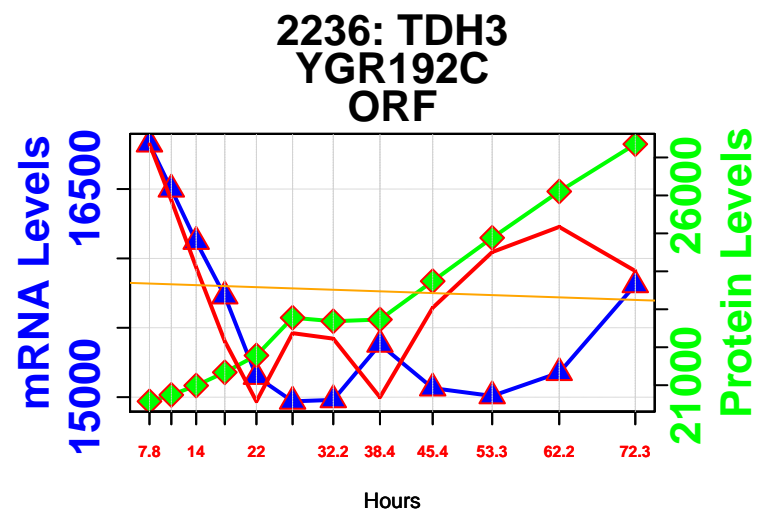
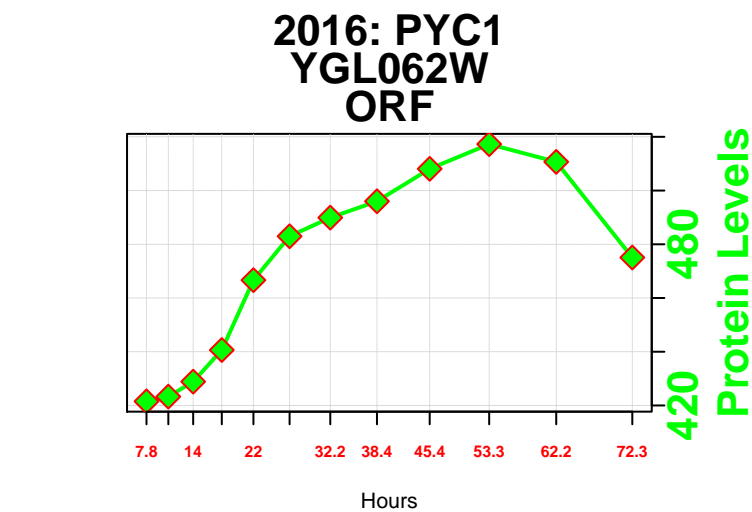
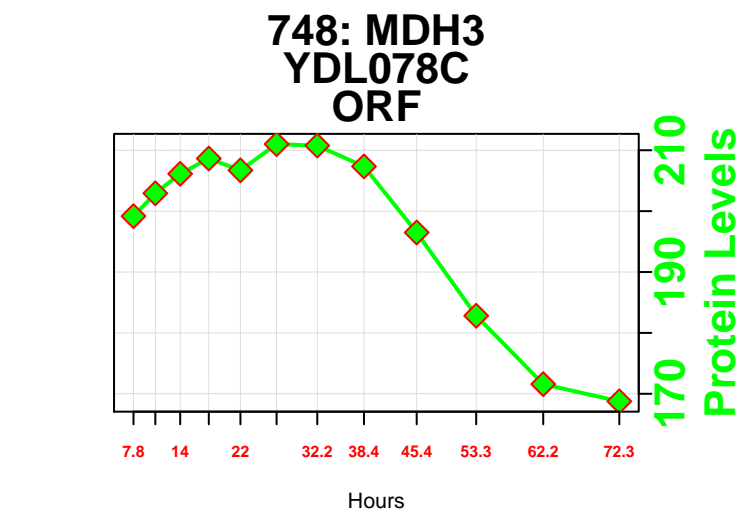
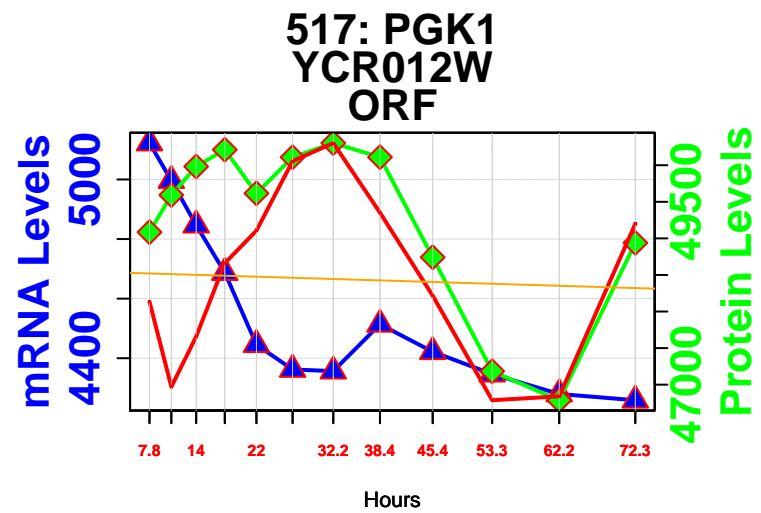
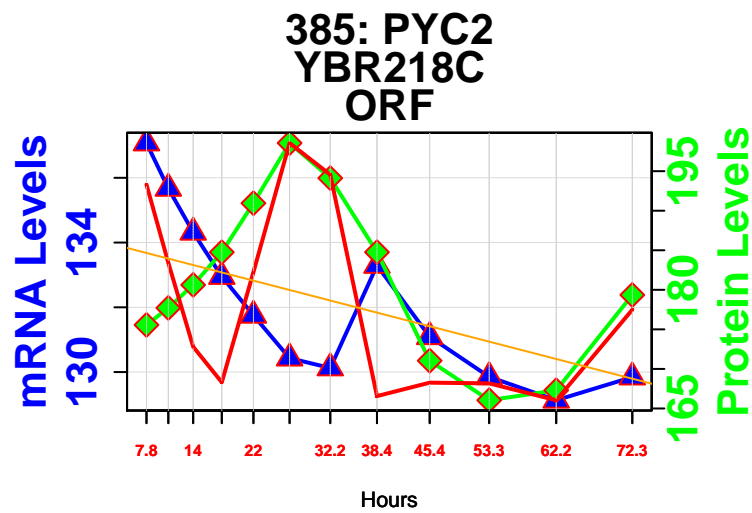
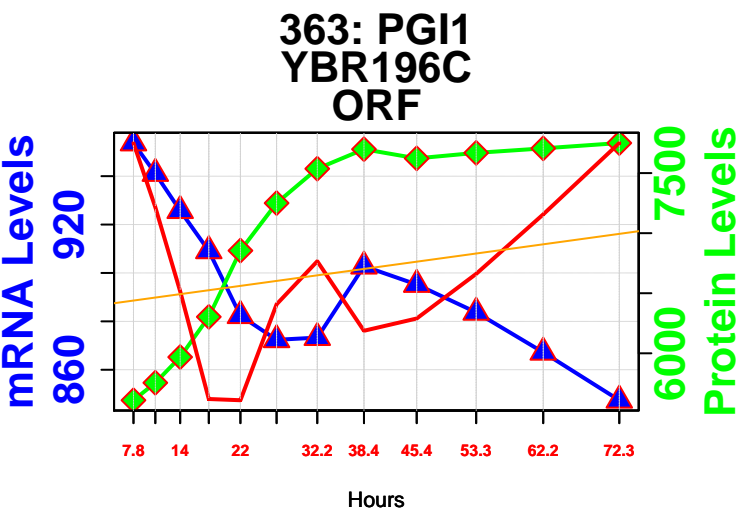


5103: ARO7
YPR060C
ORF



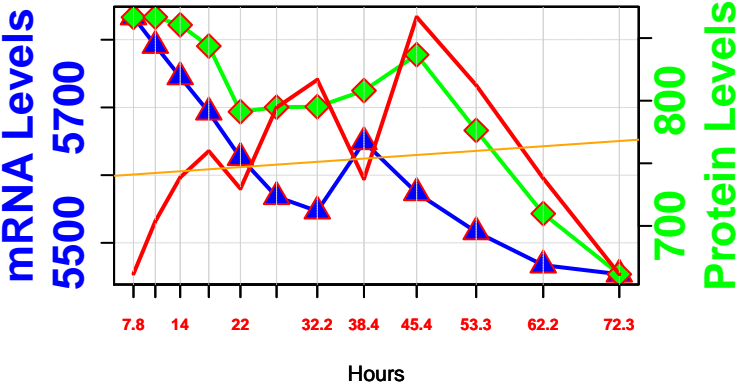
pantothenate and coenzyme A biosynthesis



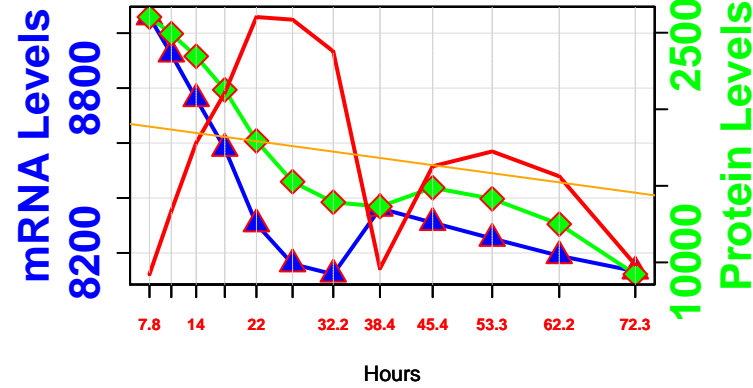


gluconeogenesis

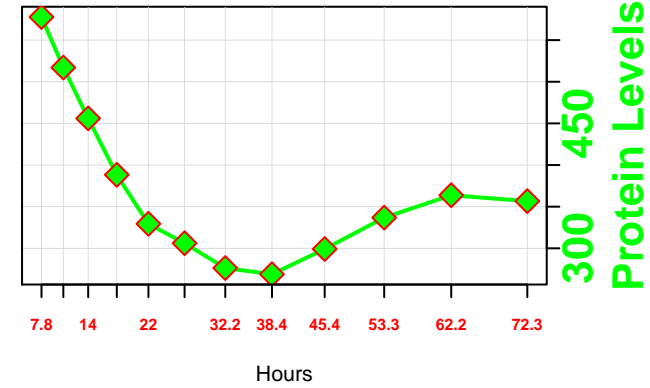
2749: TDH2
YJR009C
ORF



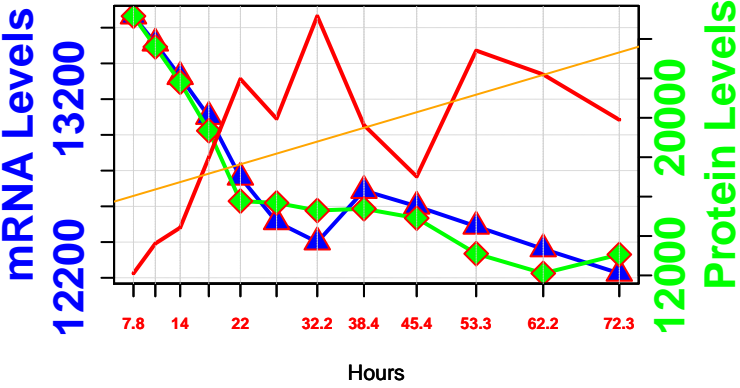
2937: GPM1
YKL152C
ORF



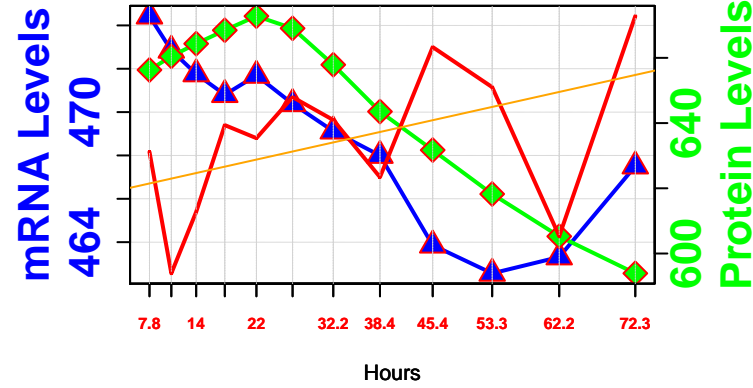
2988: MDH1
YKL085W
ORF



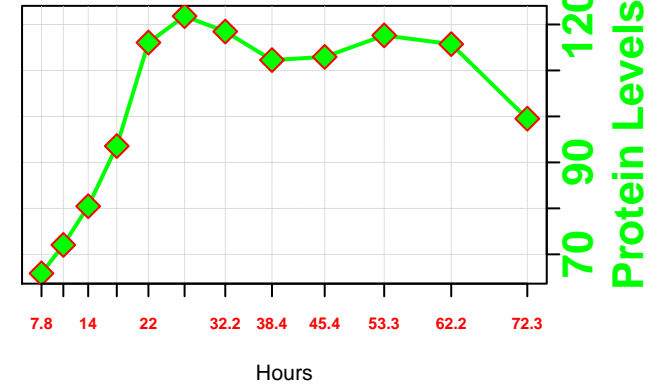
3008: FBA1
YKL060C
ORF



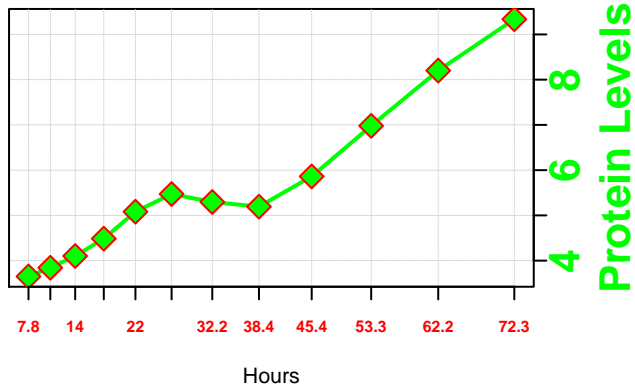
3037: MAE1
YKL029C
ORF



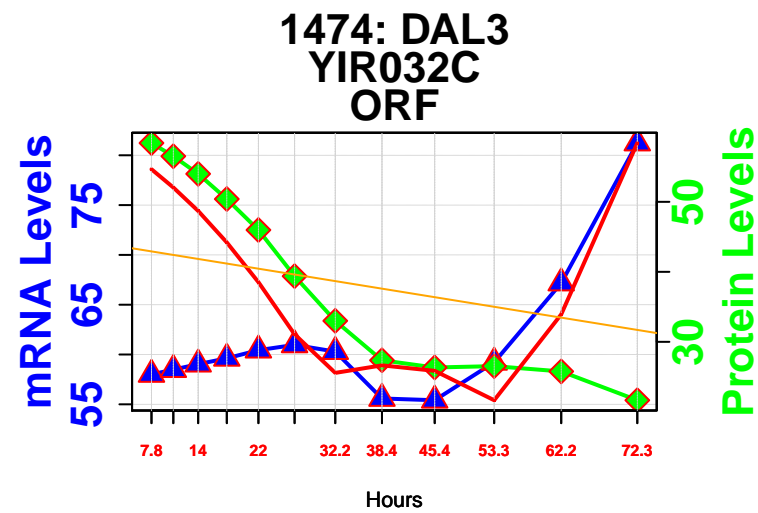
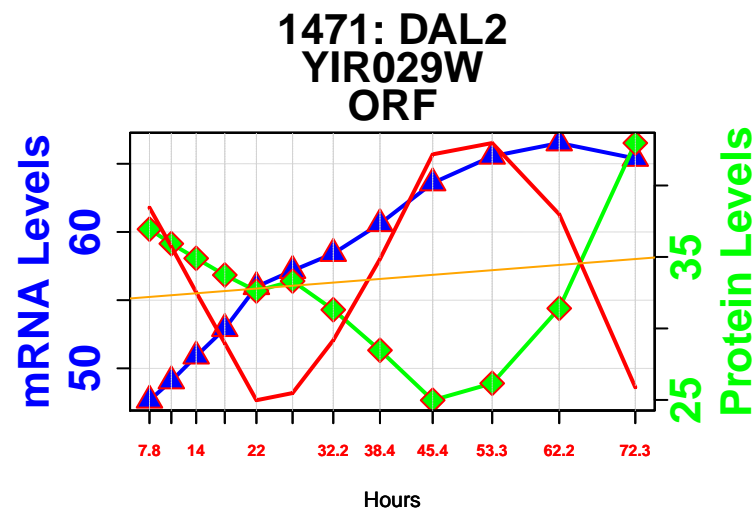
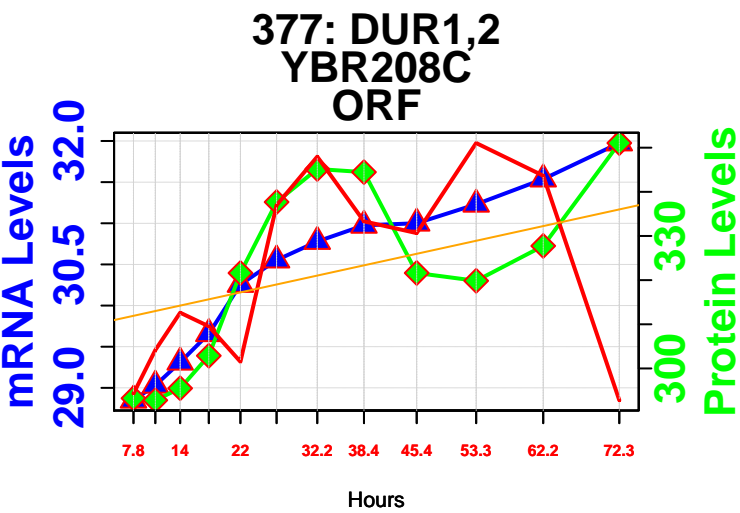
3146: PCK1
YKR097W
ORF

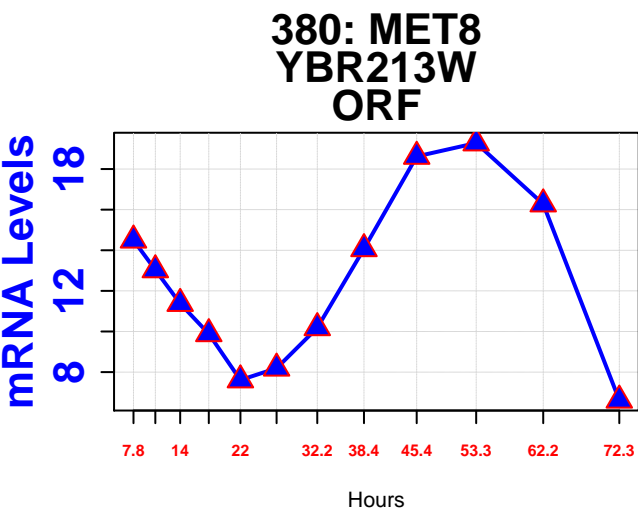


4379: MDH2
YOL126C
ORF

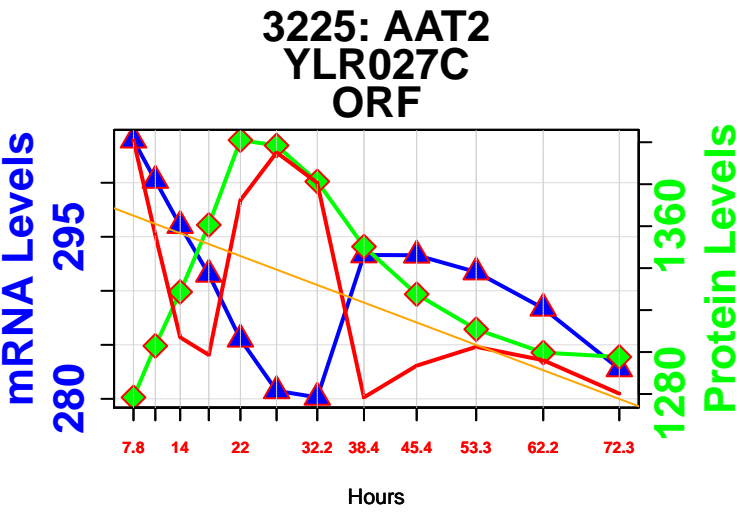
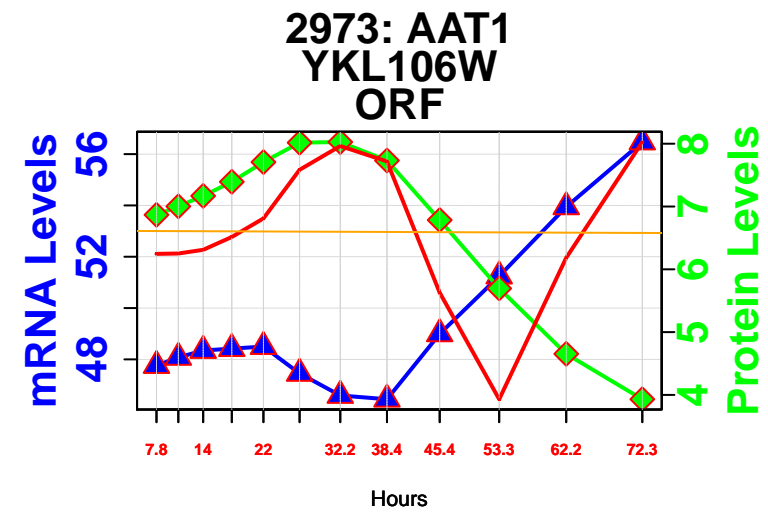
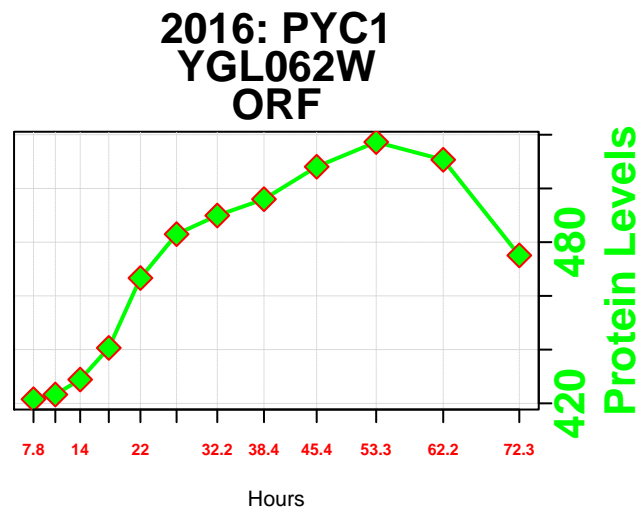
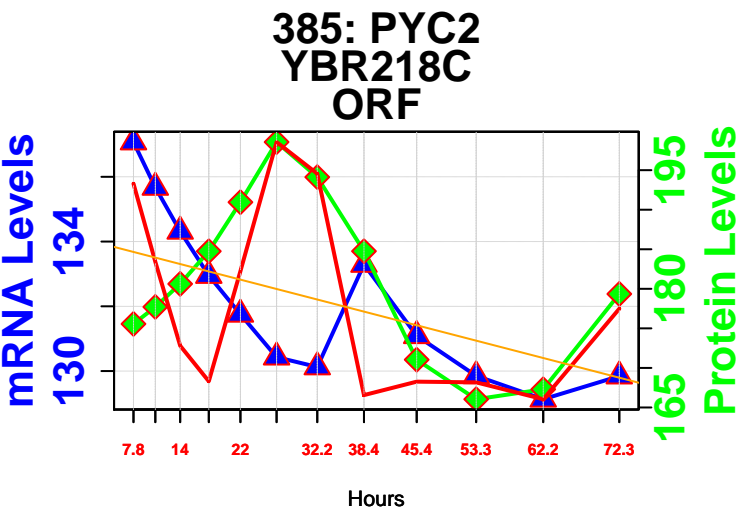


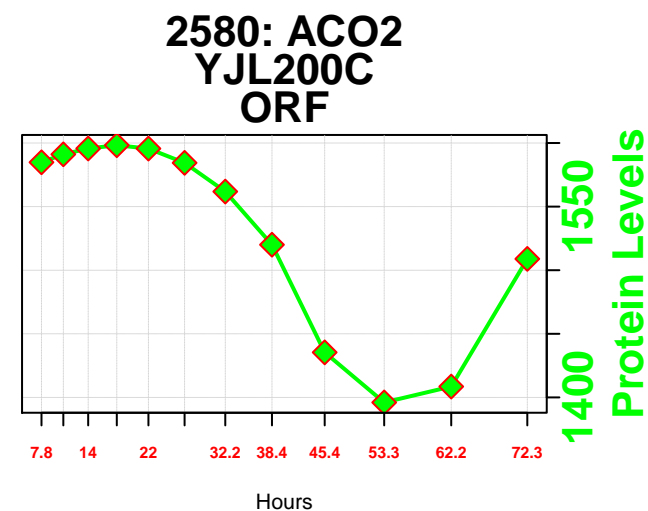
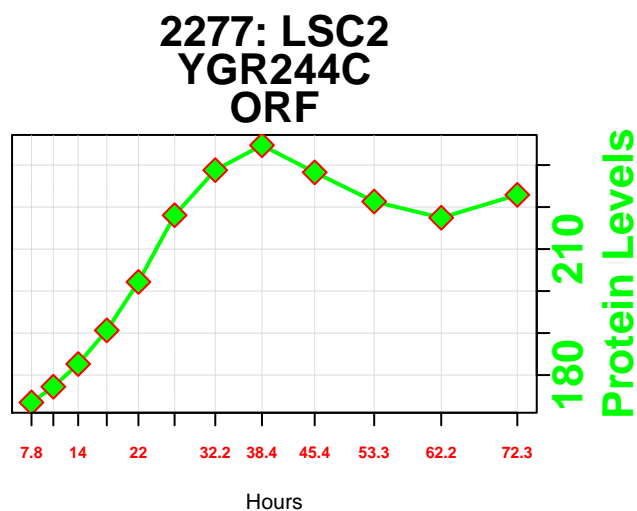
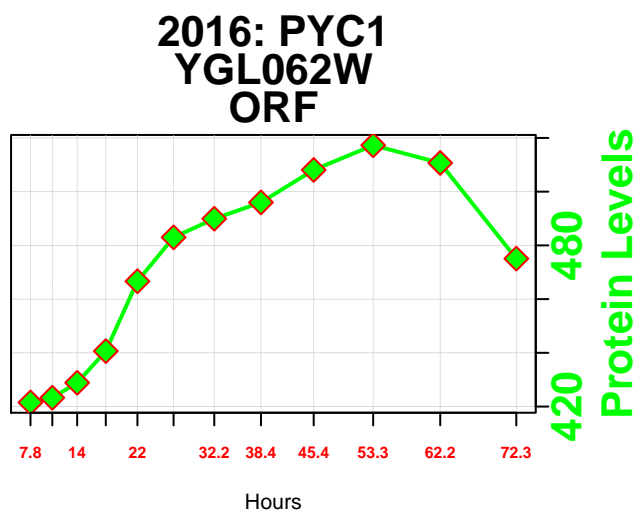
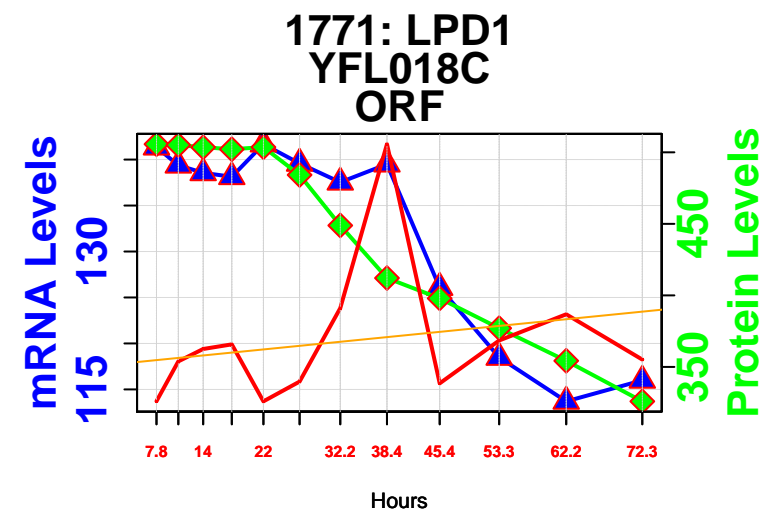
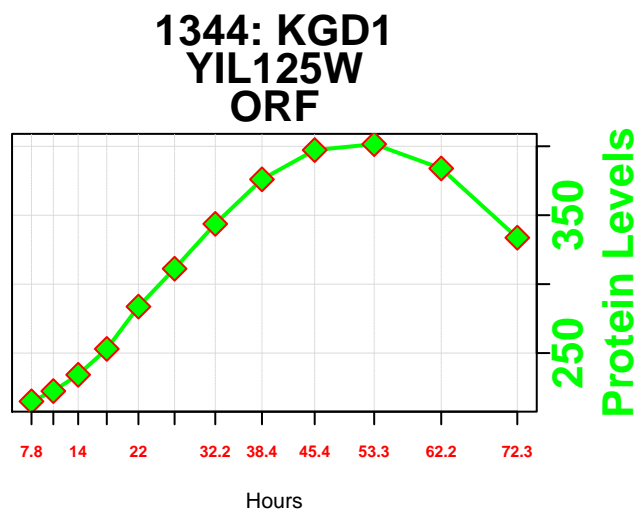
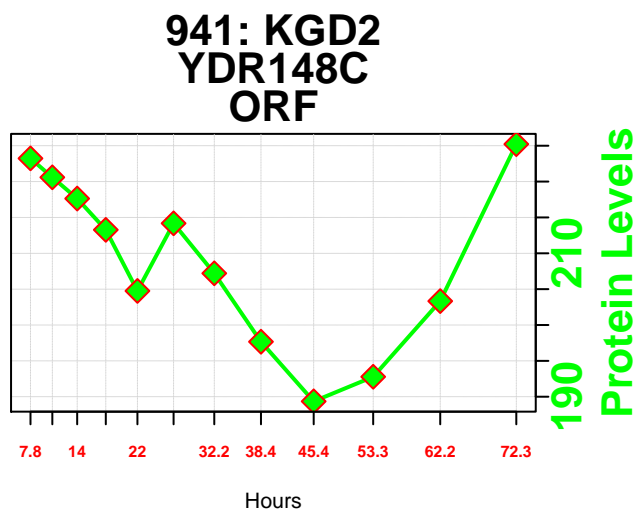
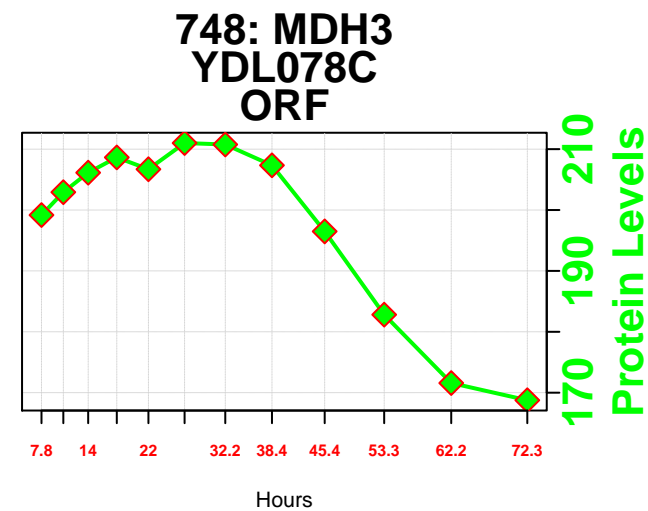
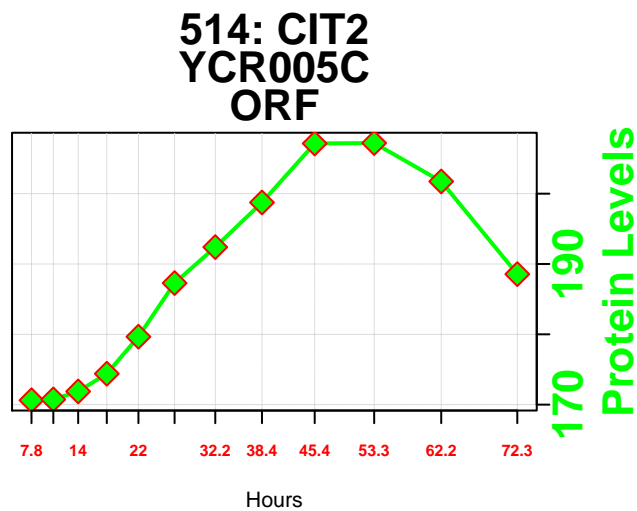
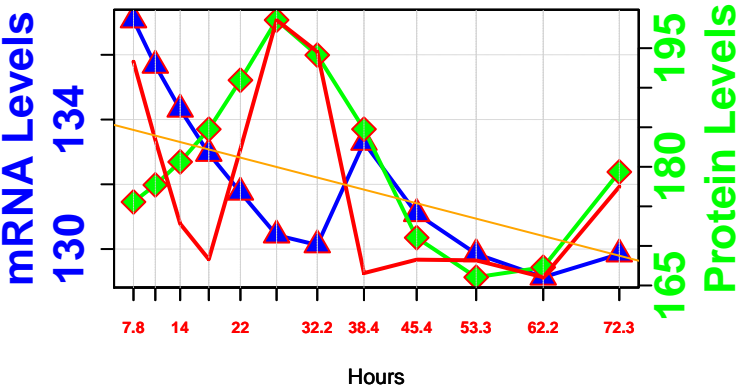
allantoin degradation





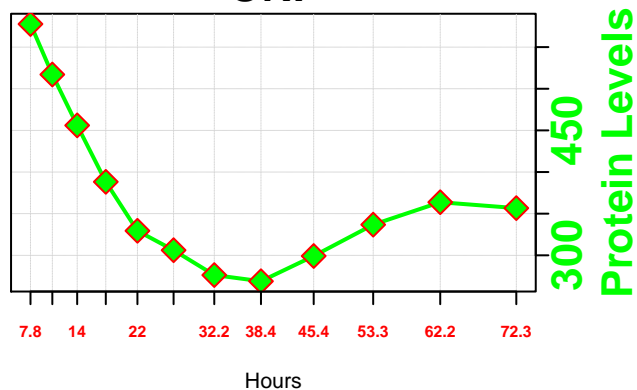
aspartate biosynthesis



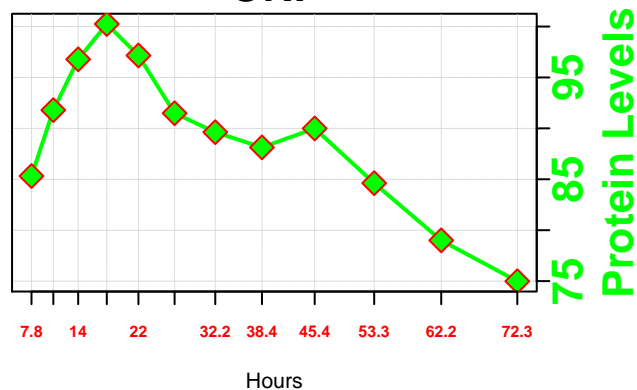


TCA cycle, aerobic respiration

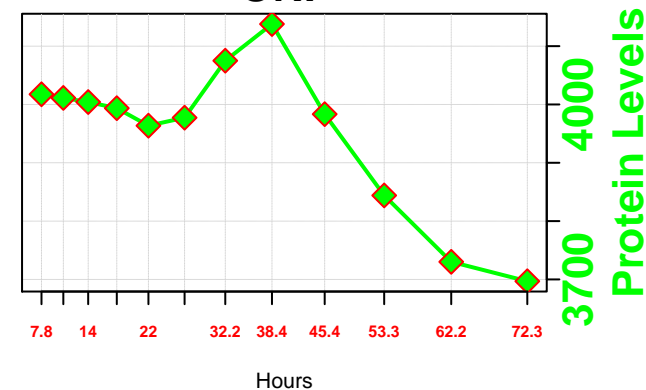
2988: MDH1
YKL085W
ORF



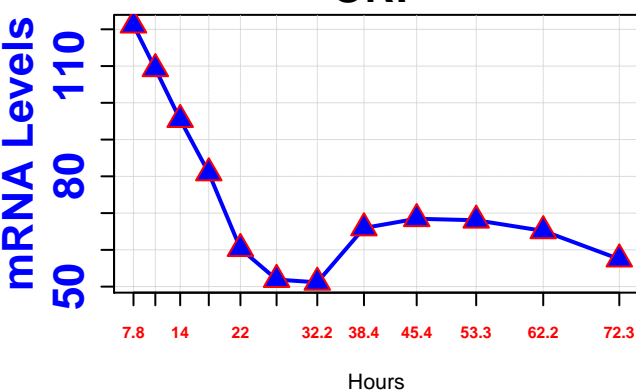
3170: SDH2
YLL041C
ORF



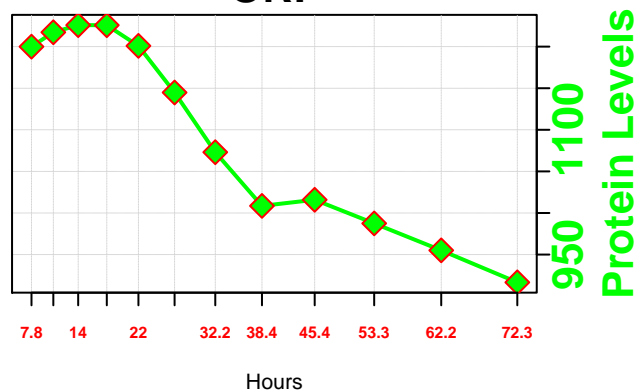
3463: ACO1
YLR304C
ORF



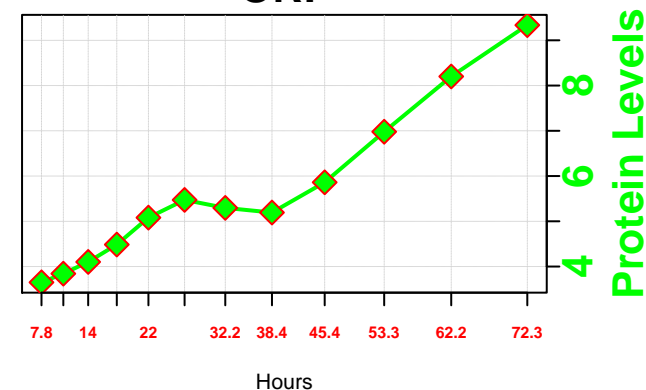
4259: IDH1
YNL037C
ORF



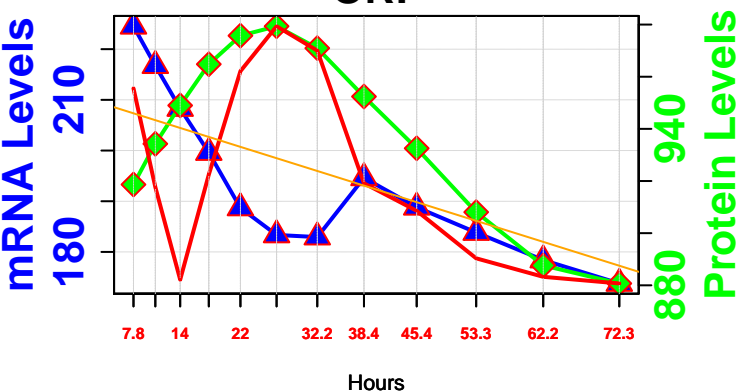
4287: CIT1
YNR001C
ORF



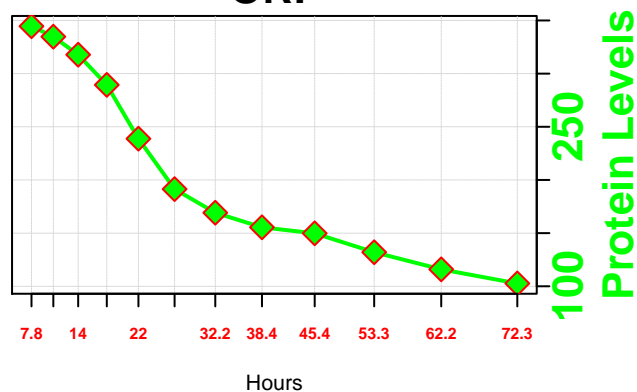
4379: MDH2
YOL126C
ORF



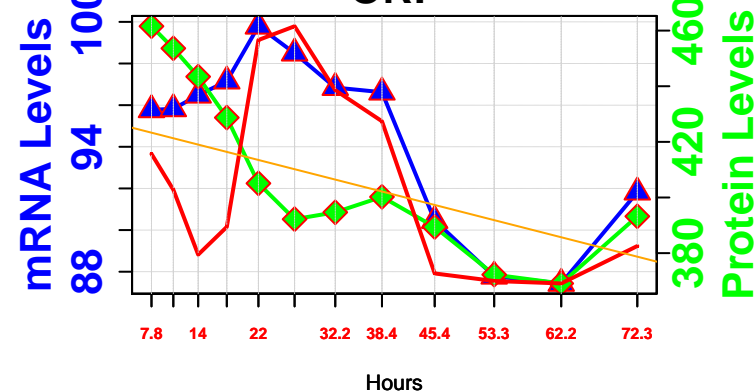
4597: IDH2
YOR136W
ORF



4602: LSC1
YOR142W
ORF

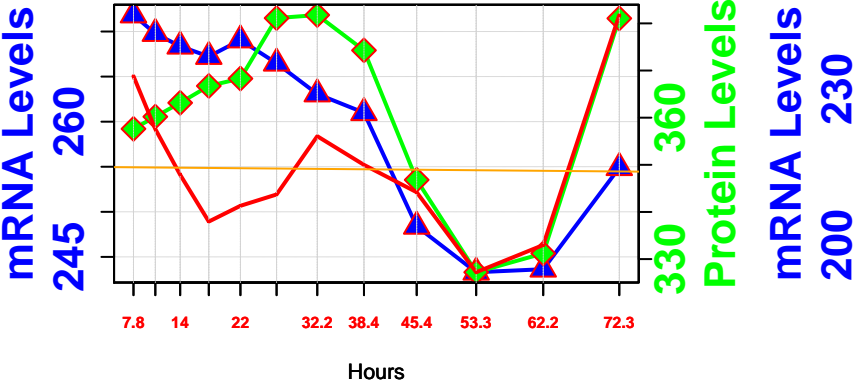


4834: FUM1
YPL262W
ORF

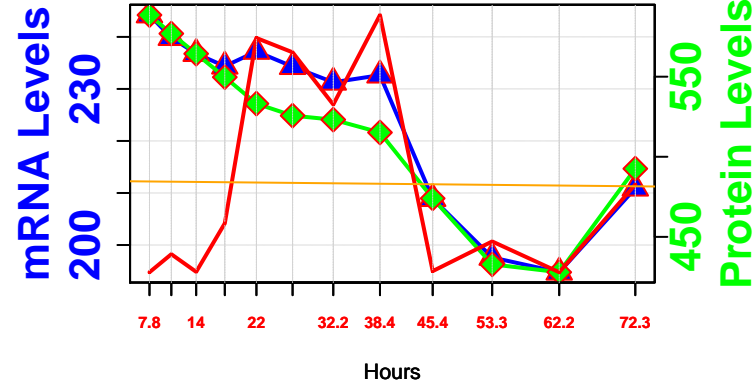


pyruvate dehydrogenase complex

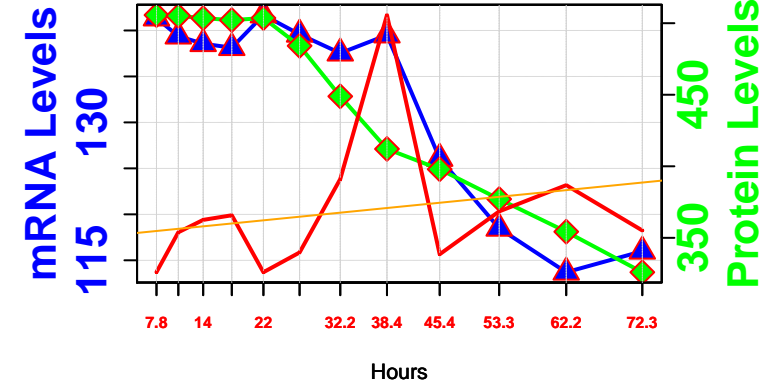
388: PDB1
YBR221C
ORF



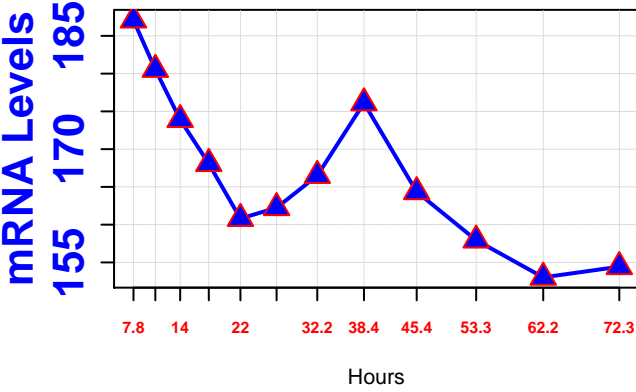
1728: PDA1
YER178W
ORF



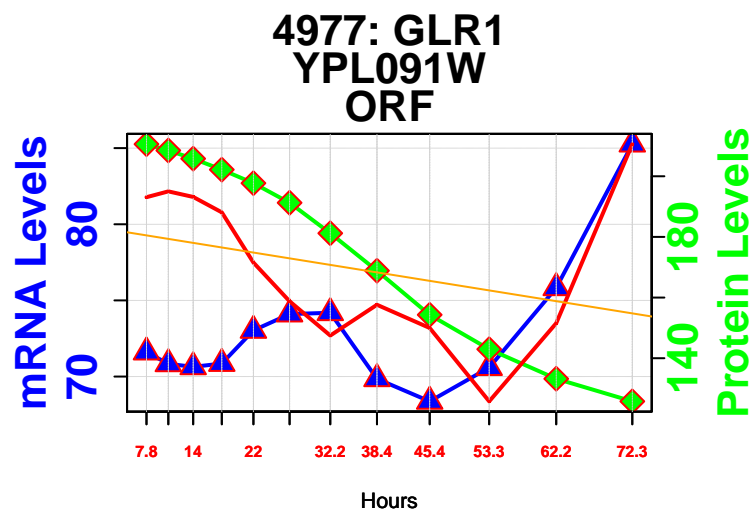
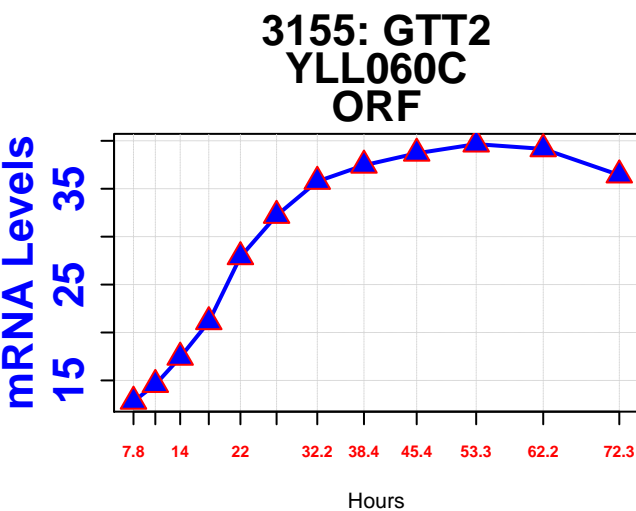
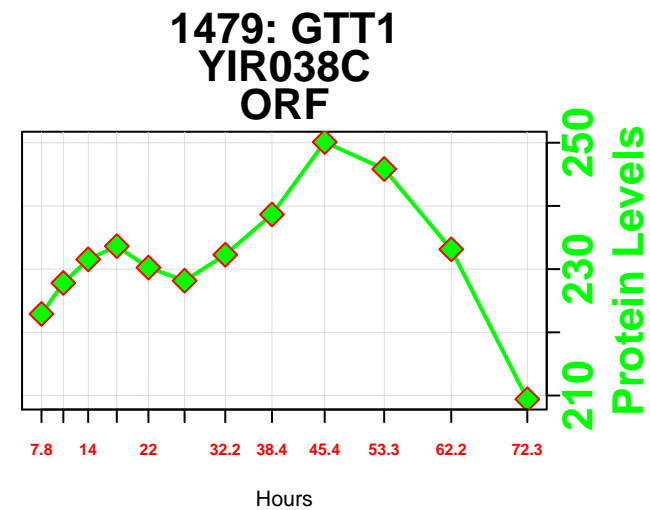
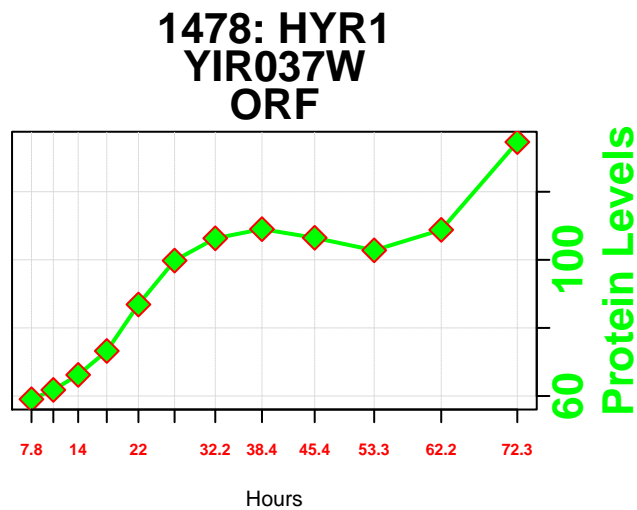
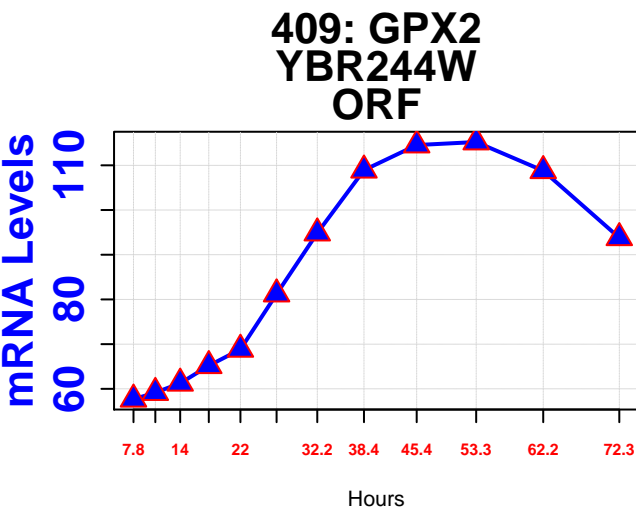
1771: LPD1
YFL018C
ORF



4227: LAT1
YNL071W
ORF

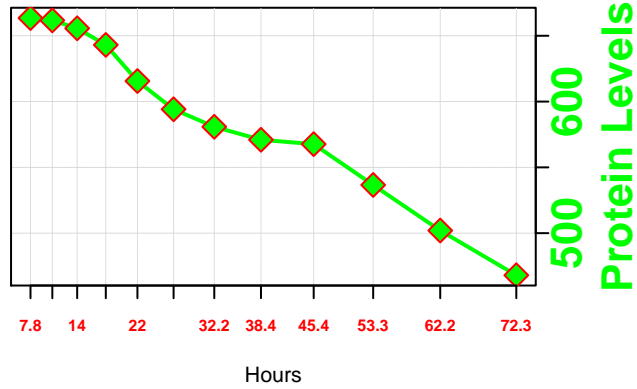


glutathione–glutaredoxin redox reactions

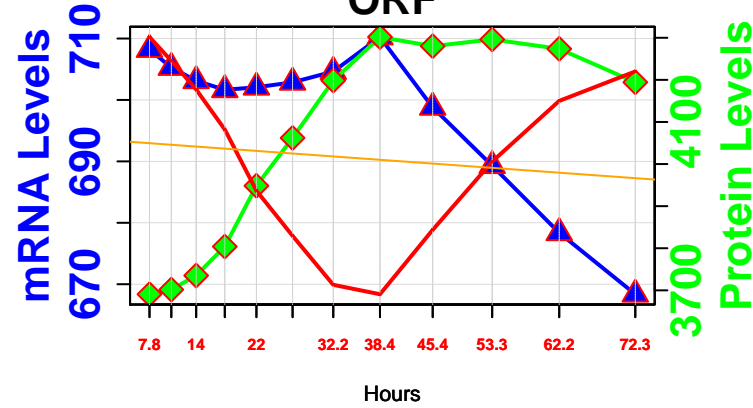


histidine biosynthesis

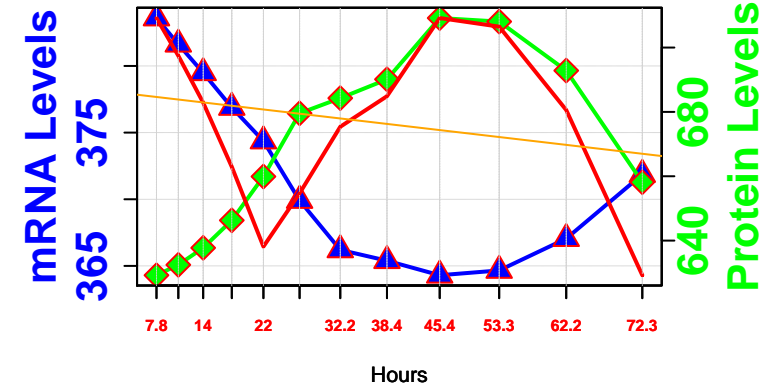
413: HIS7
YBR248C
ORF



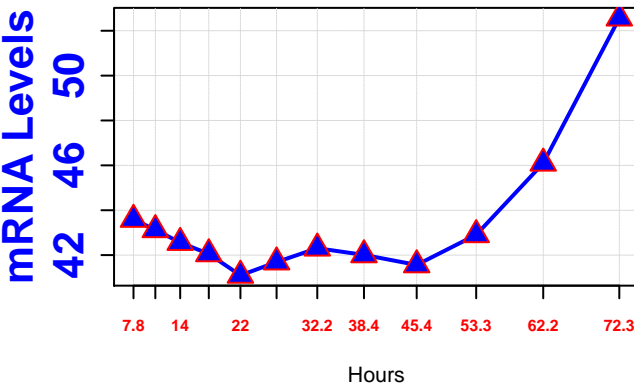
482: HIS4
YCL030C
ORF



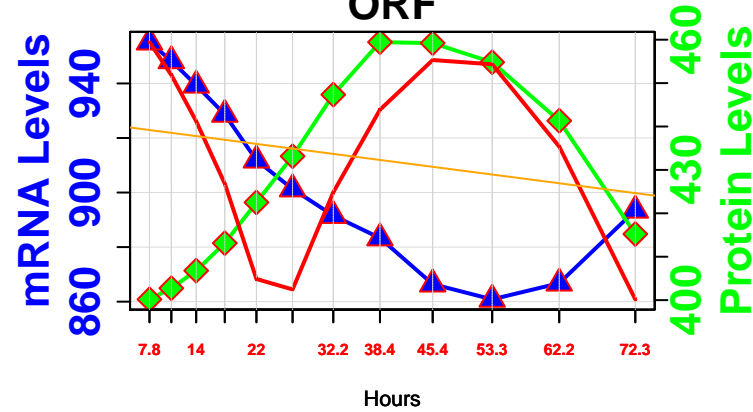
1352: HIS5
YIL116W
ORF



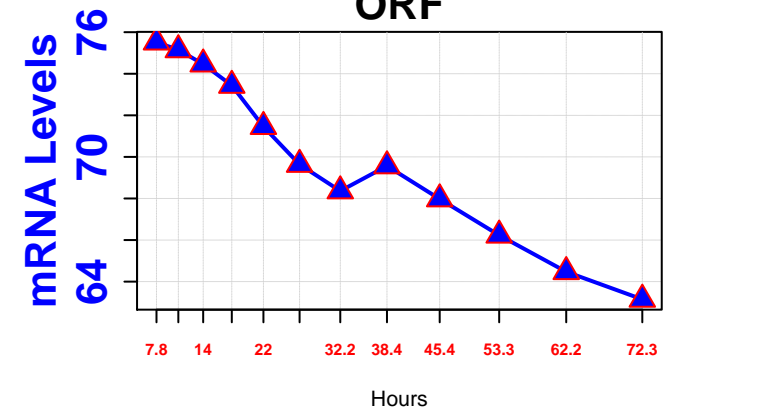
1432: HIS6
YIL020C
ORF



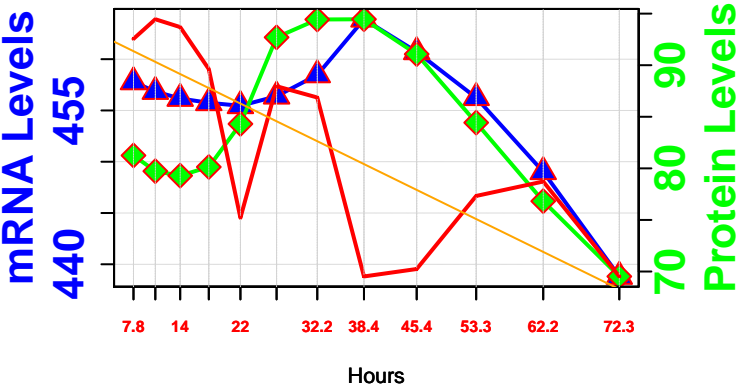
1604: HIS1
YER055C
ORF



1811: HIS2
YFR025C
ORF

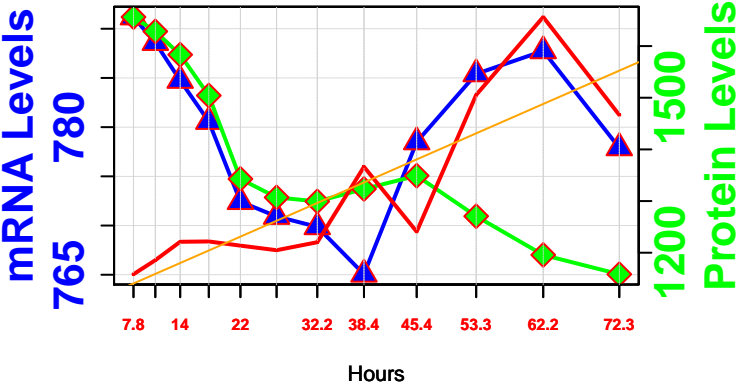


4657: HIS3
YOR202W
ORF

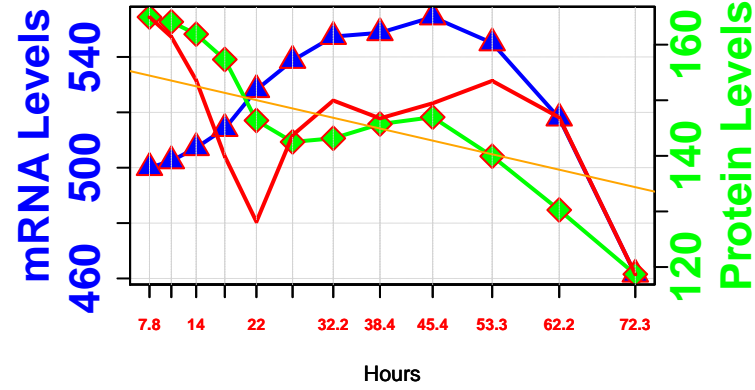


chorismate biosynthesis

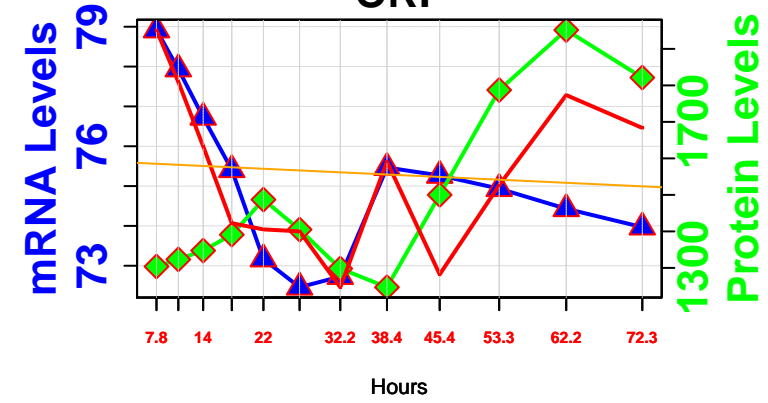
414: ARO4
YBR249C
ORF



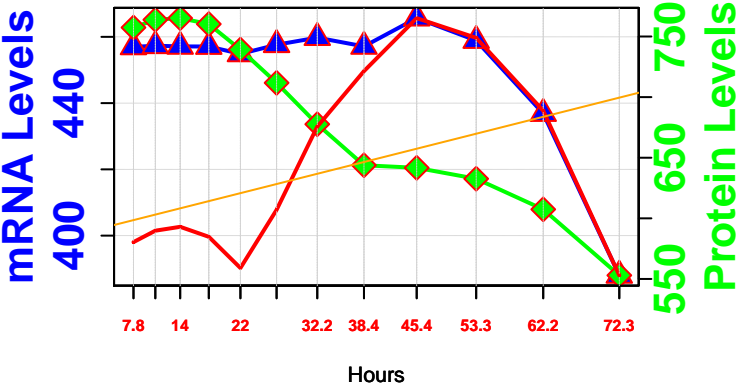
842: ARO3
YDR035W
ORF



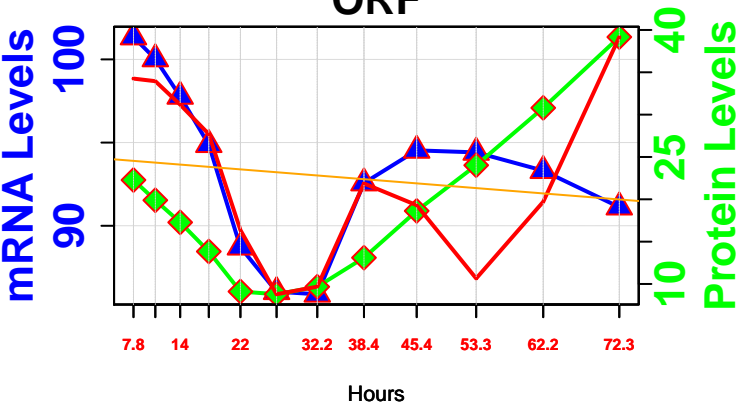
922: ARO1
YDR127W
ORF



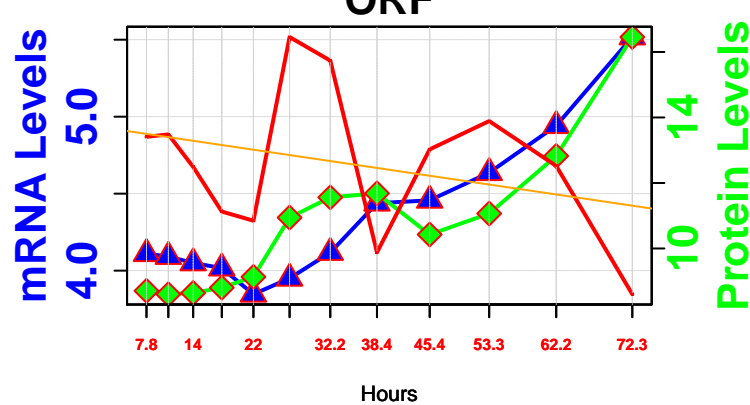
1937: ARO2
YGL148W
ORF



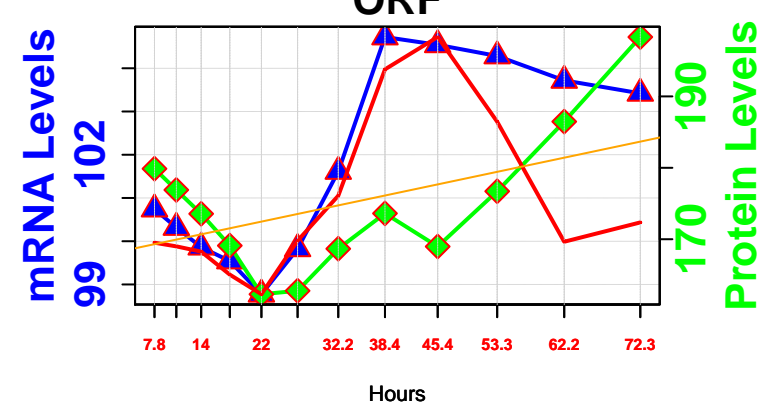
417: DUT1
YBR252W
ORF



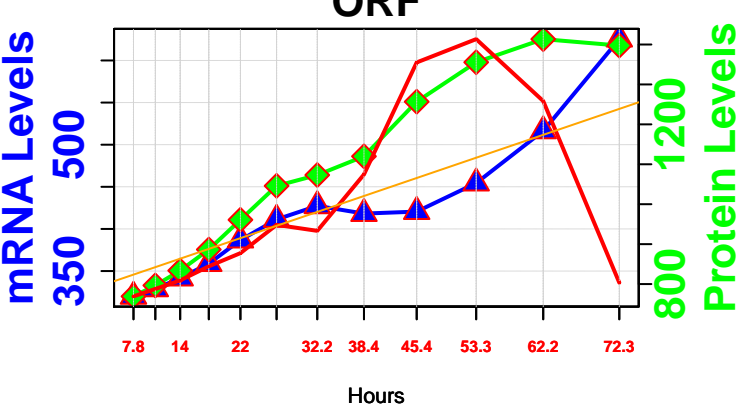
1393: RNR3
YIL066C
ORF



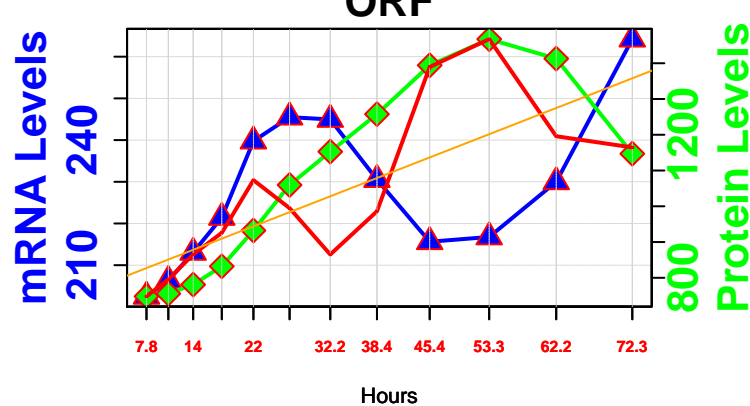
1619: RNR1
YER070W
ORF



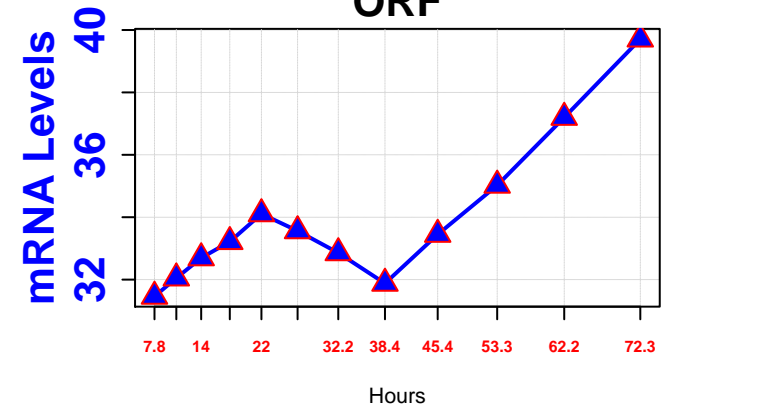
2225: RNR4
YGR180C
ORF



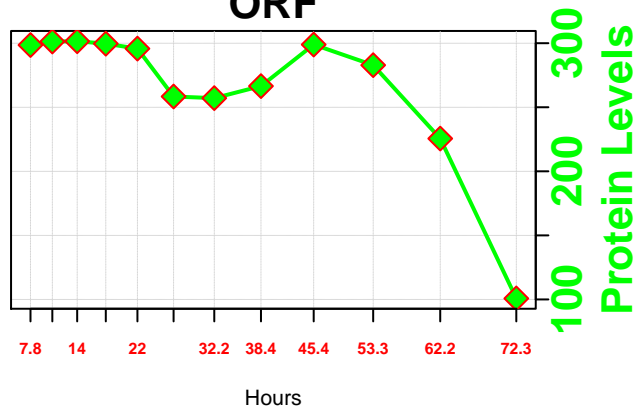
2725: RNR2
YJL026W
ORF



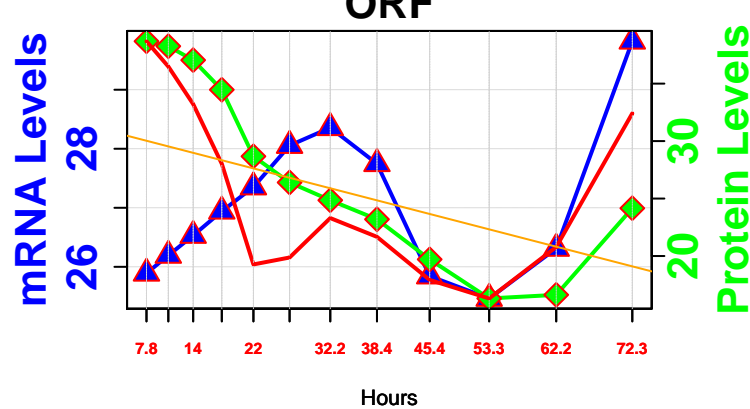
2788: CDC8
YJR057W
ORF



3003: YNK1
YKL067W
ORF

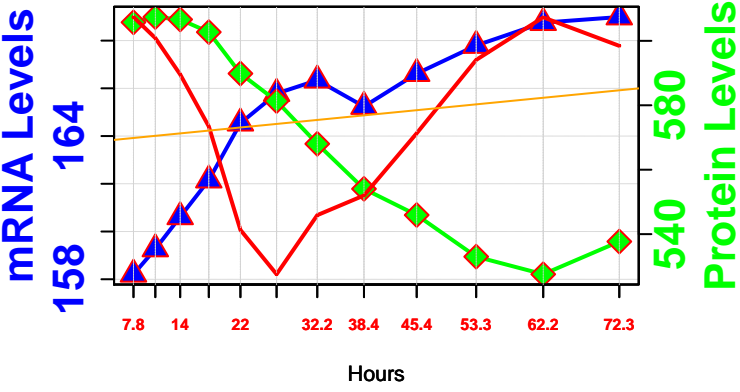


4545: CDC21
YOR074C
ORF

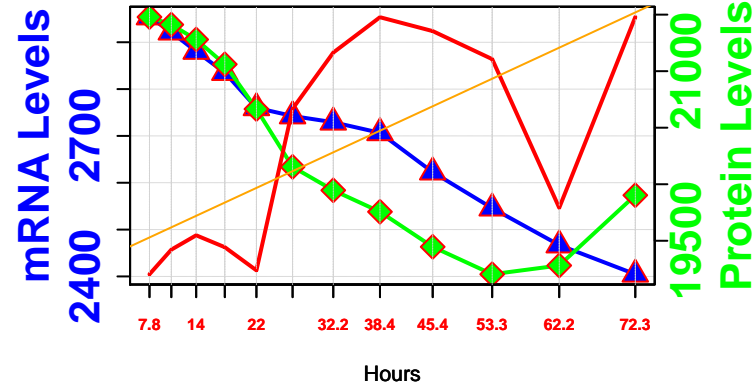


glycine biosynthesis from serine

429: SHM1
YBR263W
ORF

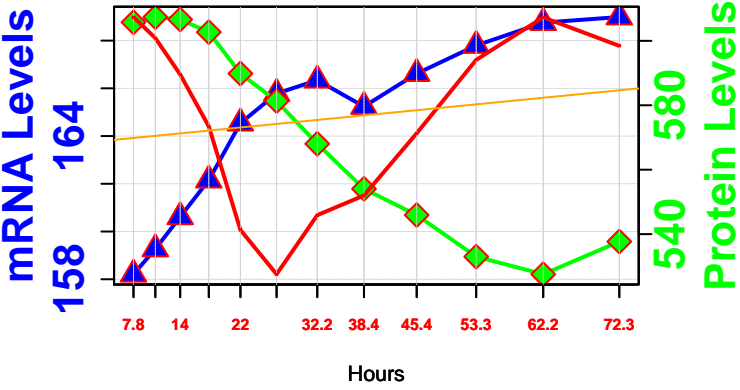


3253: SHM2
YLR058C
ORF

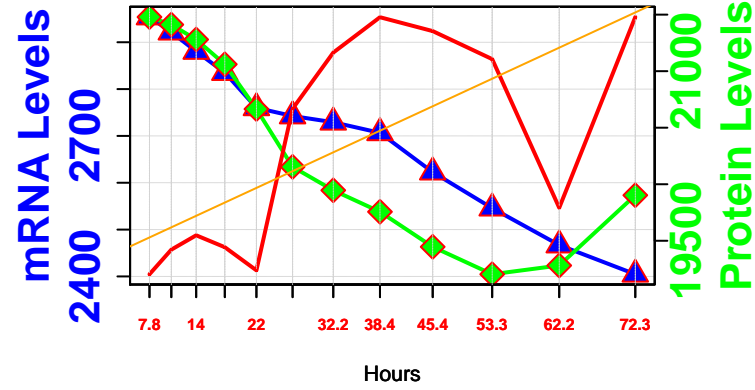


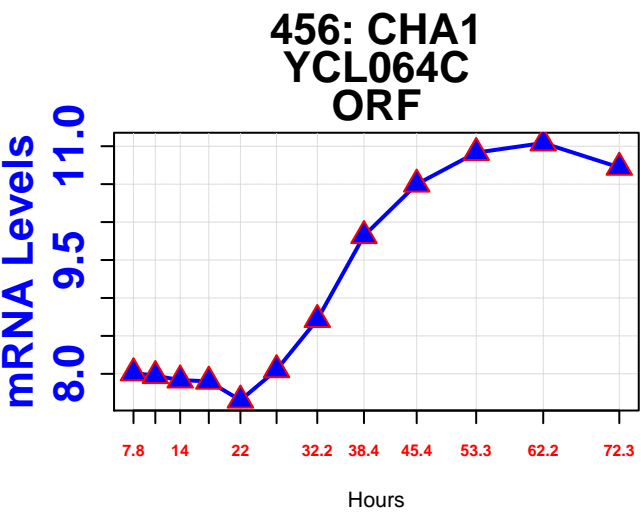
serine biosynthesis from glyoxylate

429: SHM1
YBR263W
ORF



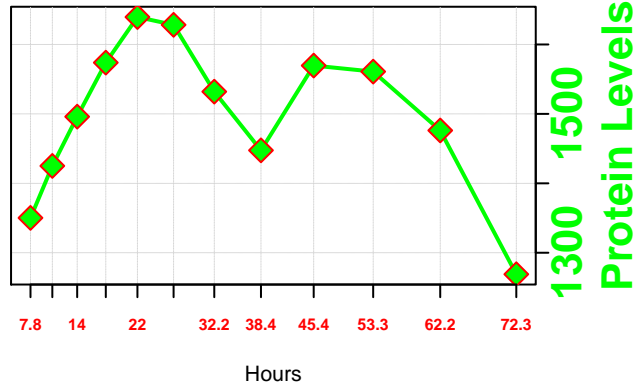
3253: SHM2
YLR058C
ORF



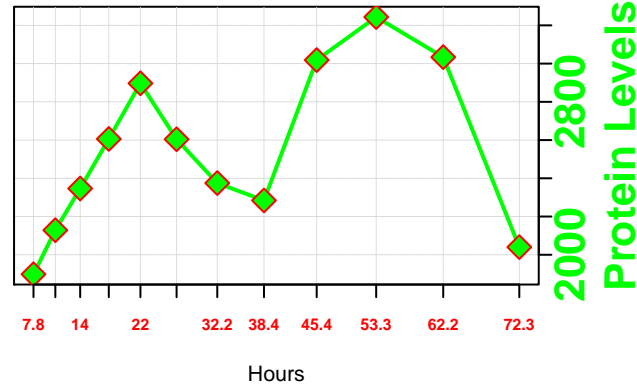


glucose-6-phosphate biosynthesis

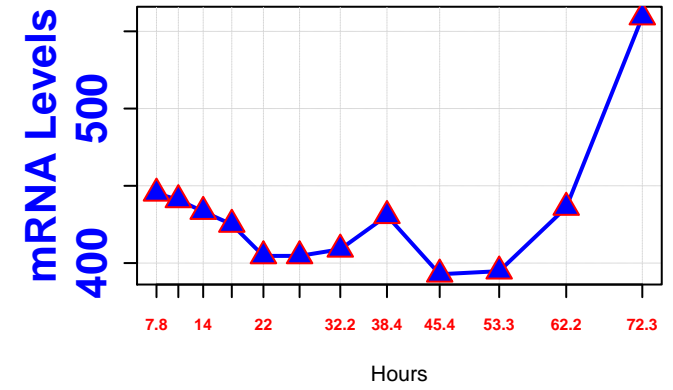
476: GLK1
YCL040W
ORF



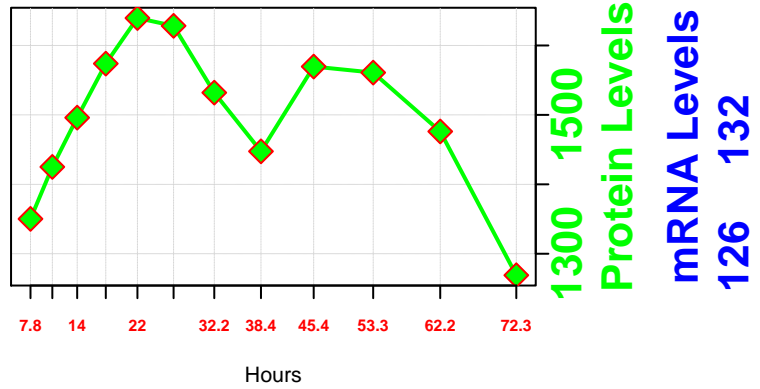
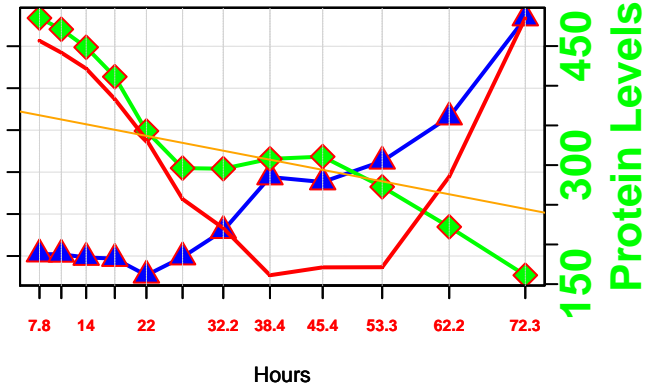
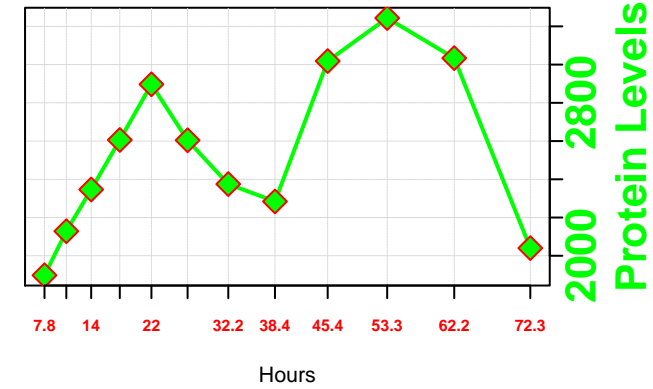
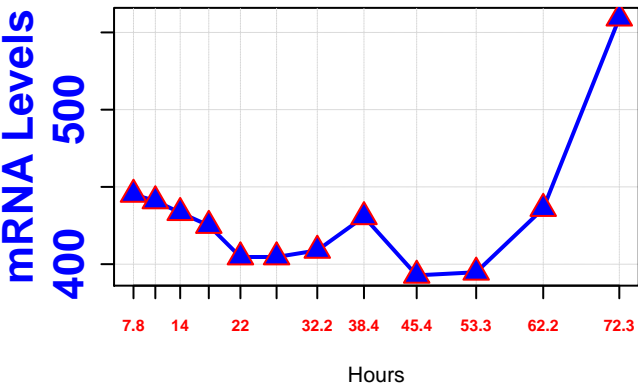
1841: HXK1
YFR053C
ORF

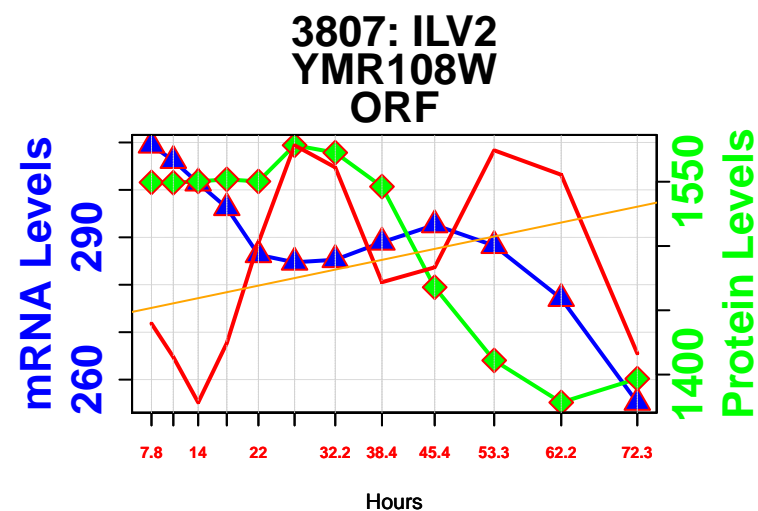
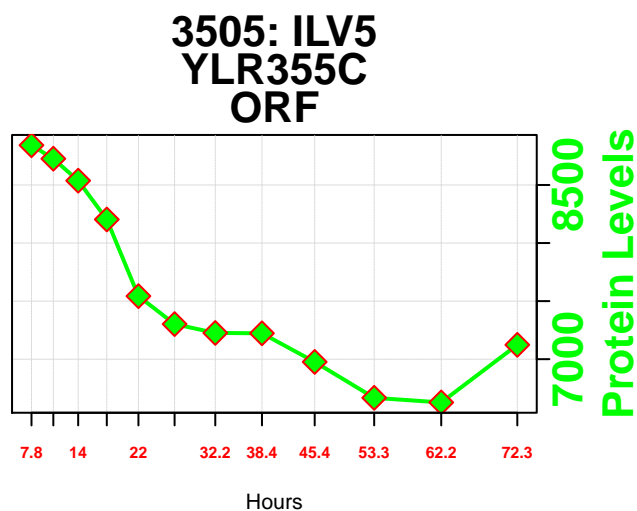
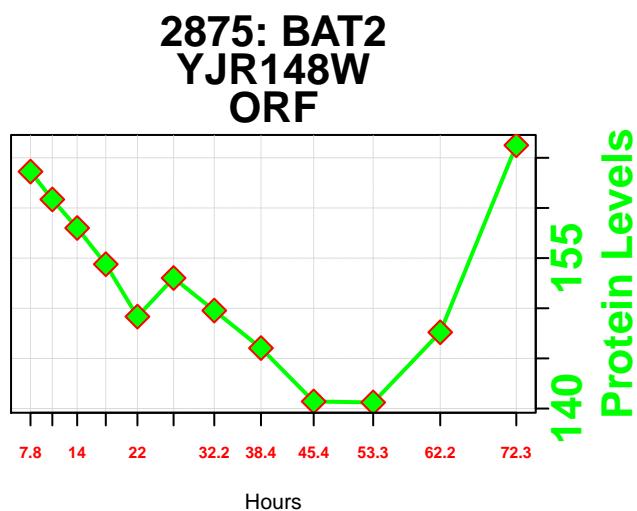
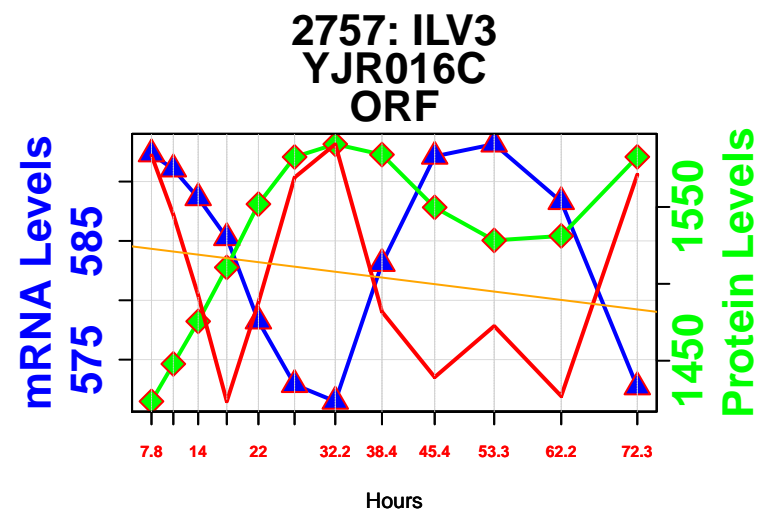
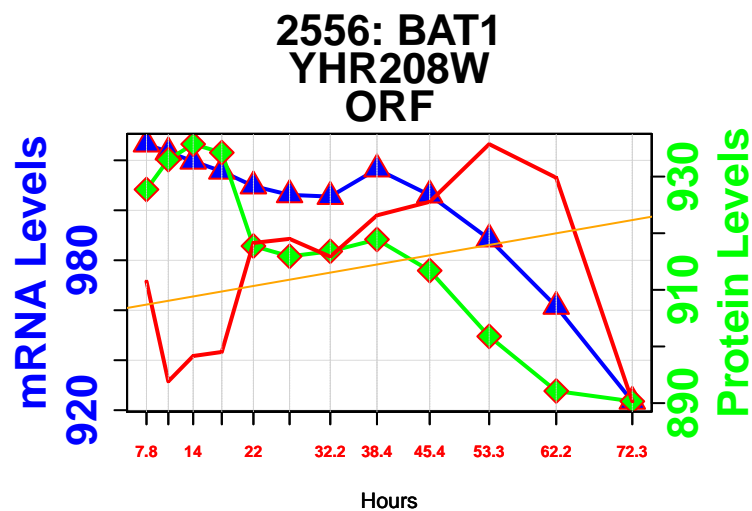
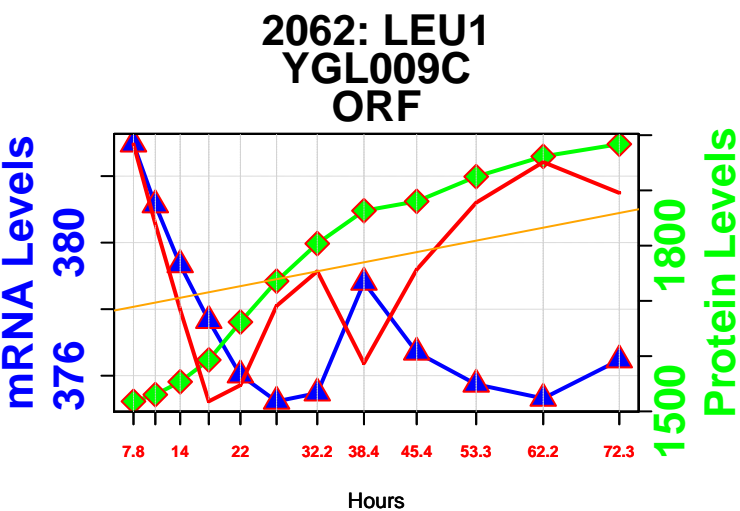
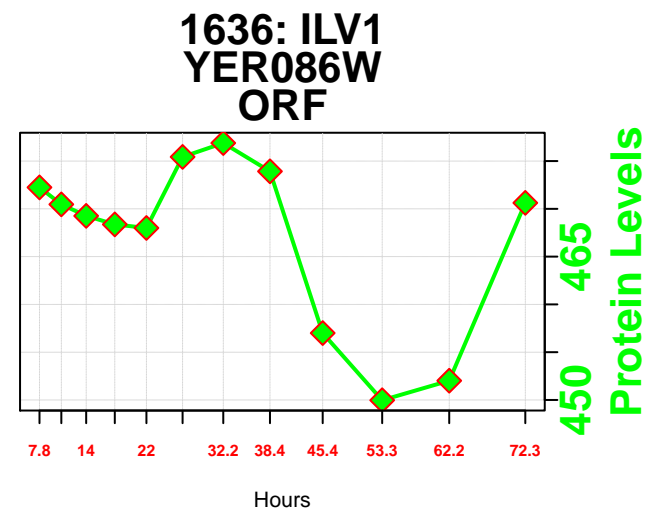
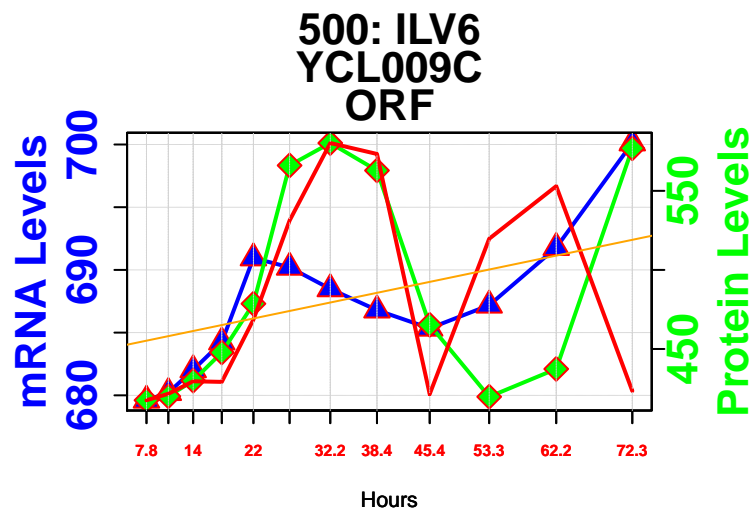
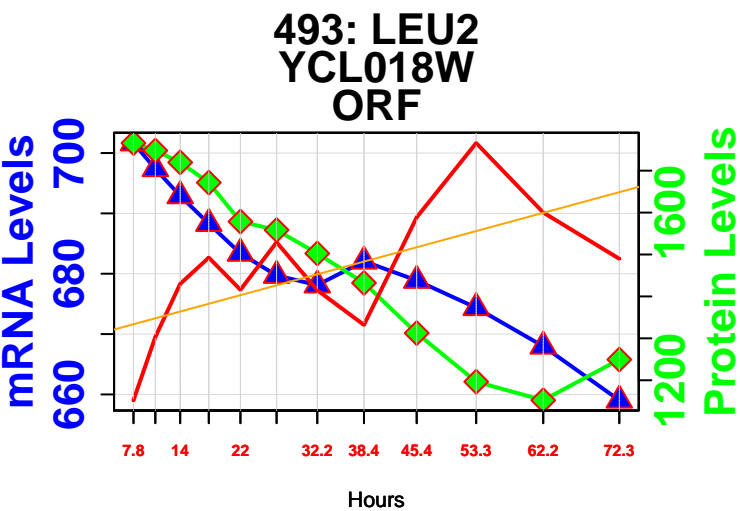


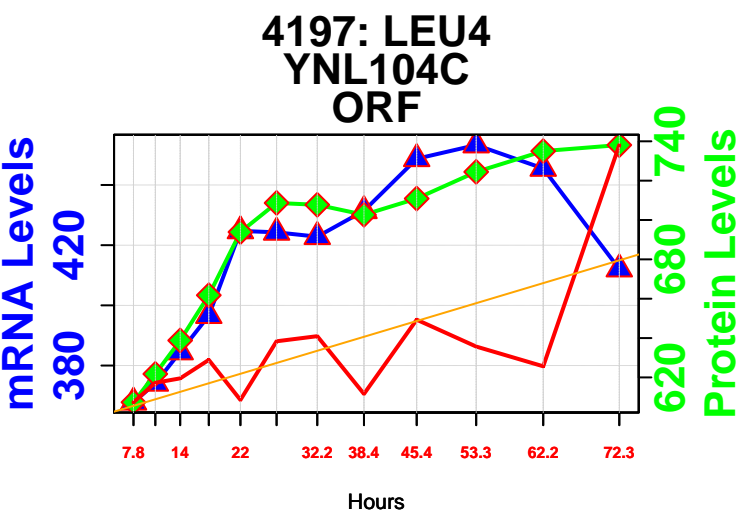
1850: HXK2
YGL253W
ORF



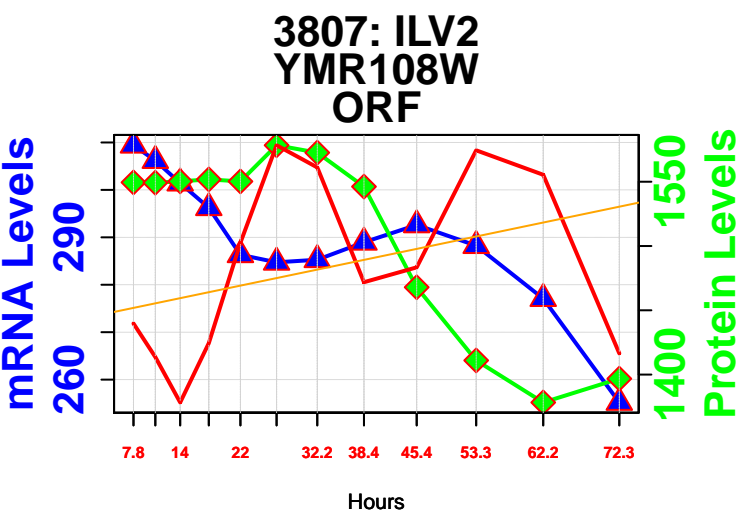
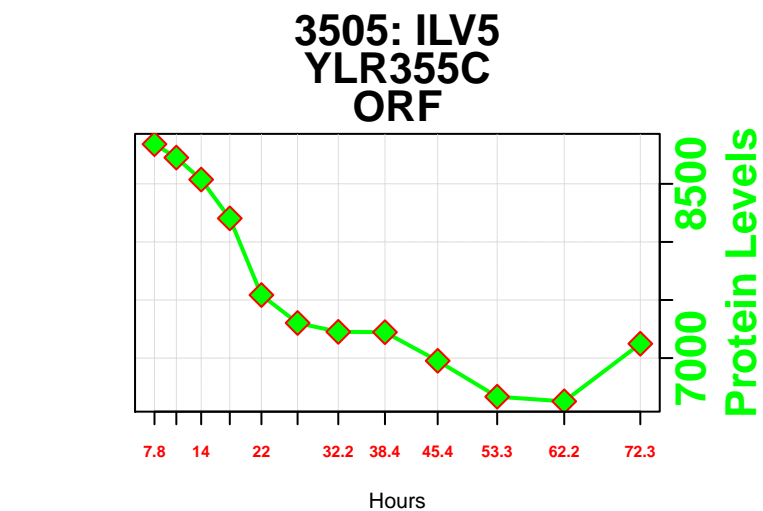
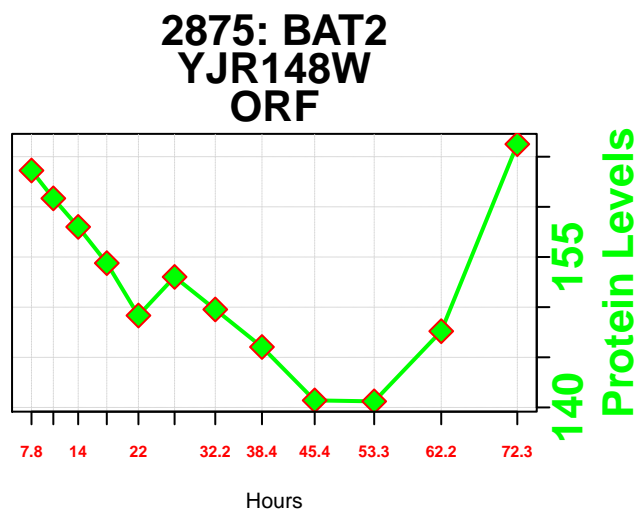
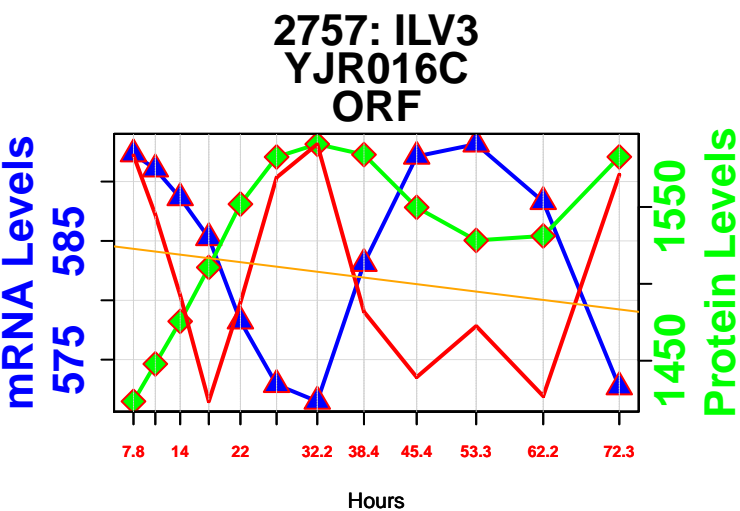
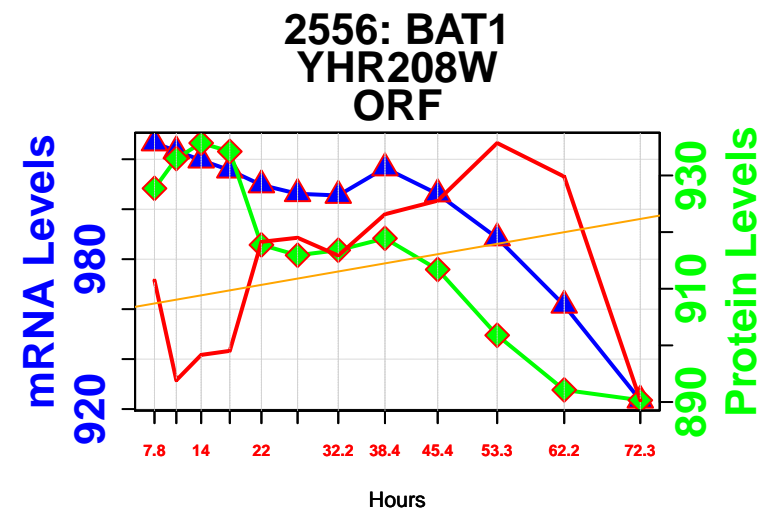
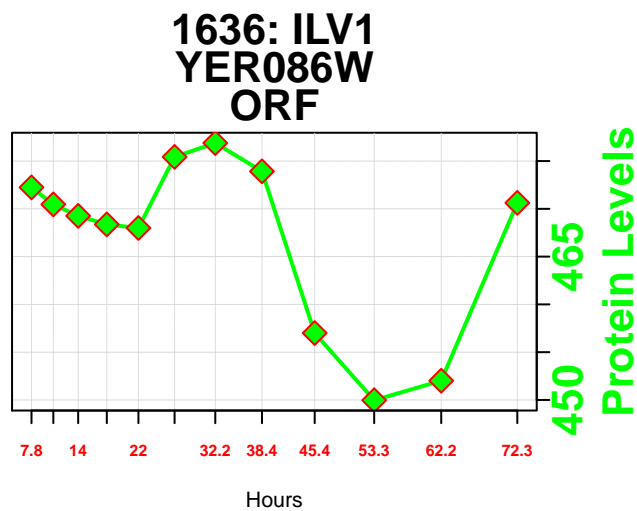
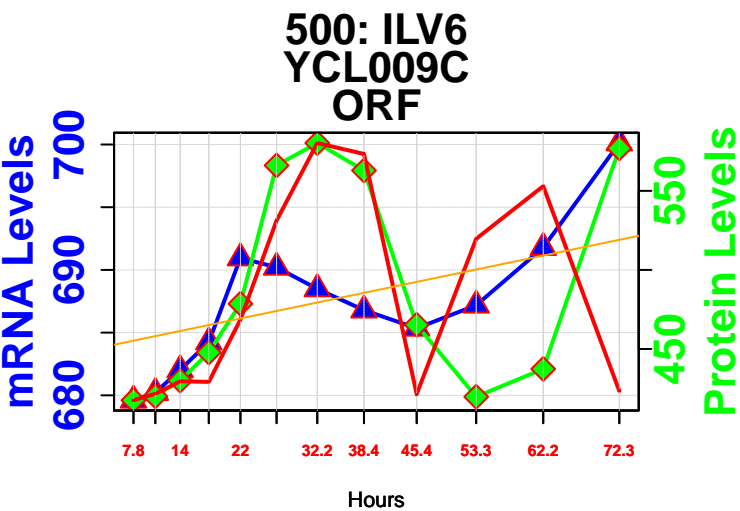
mannose degradation

476: GLK1
YCL040W
ORF1551: PMI40
YER003C
ORF1841: HXK1
YFR053C
ORF1850: HXK2
YGL253W
ORF

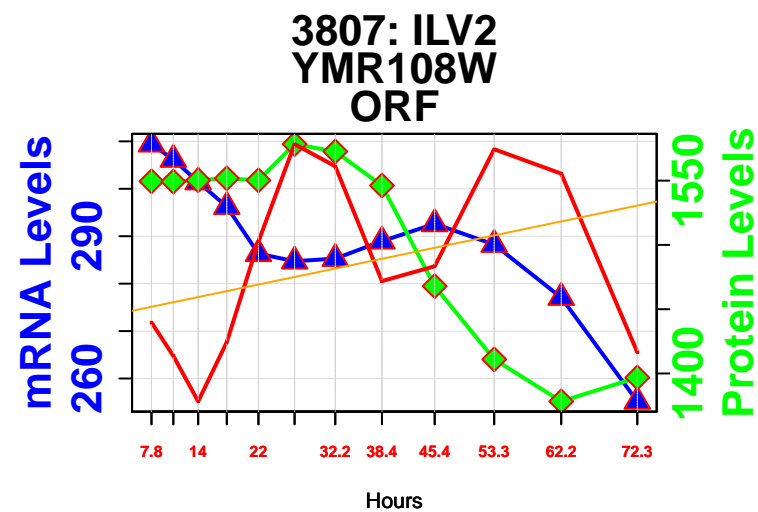
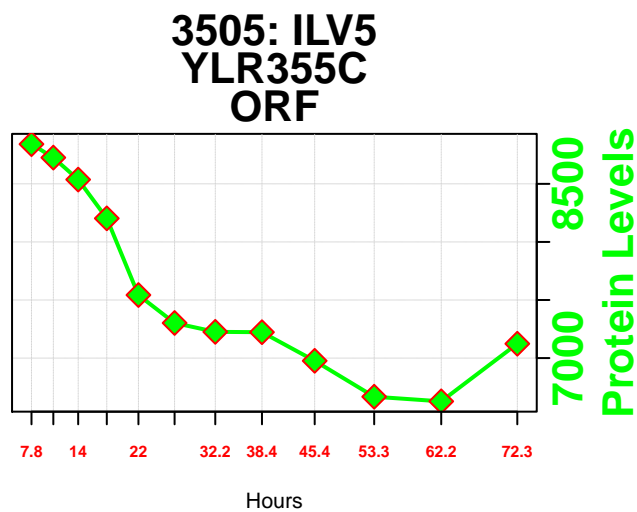
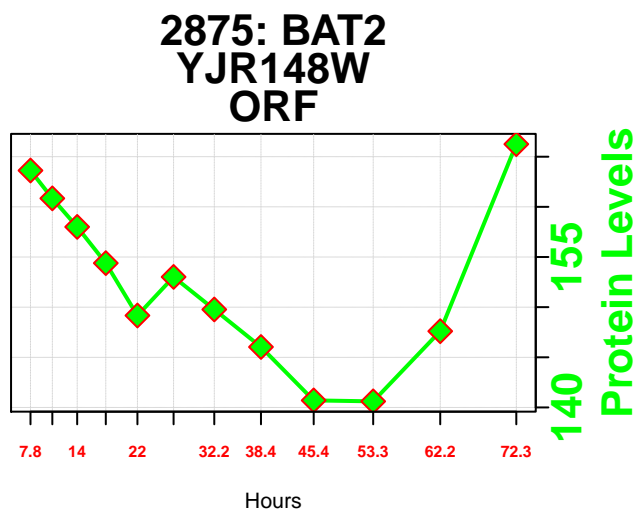
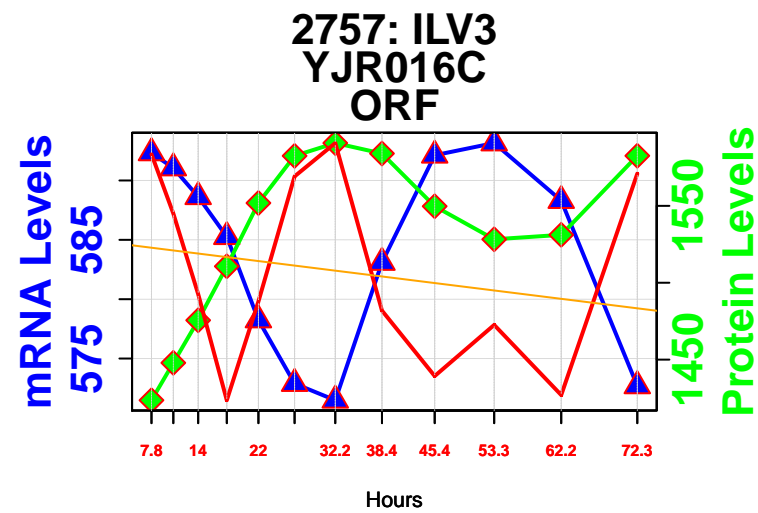
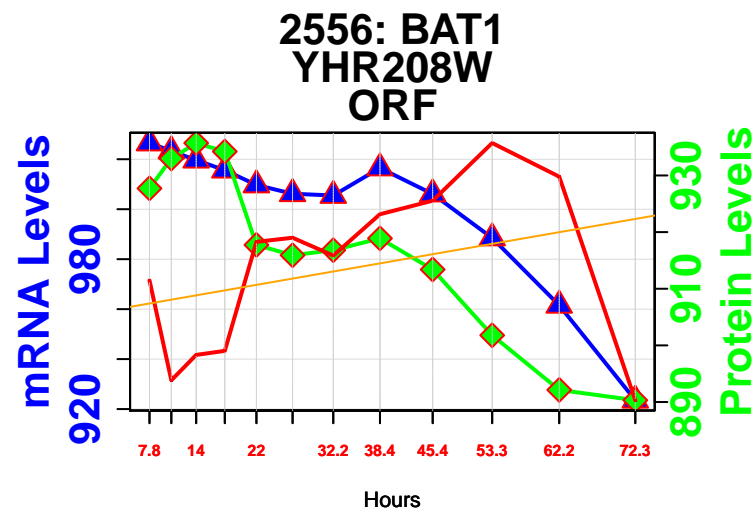
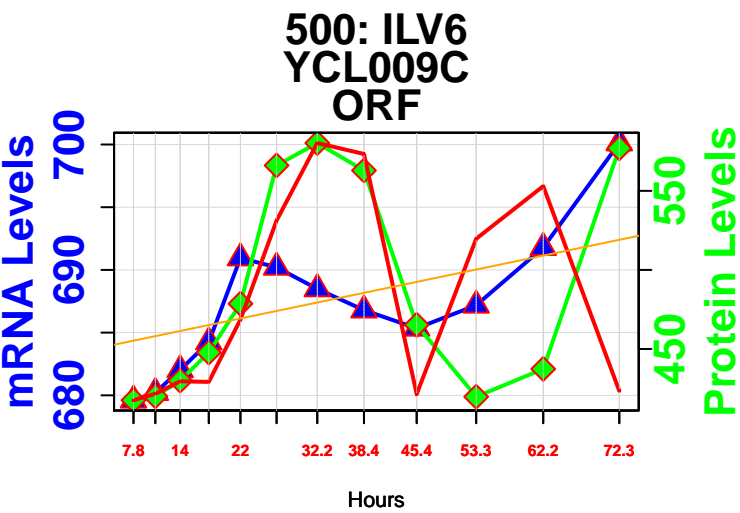




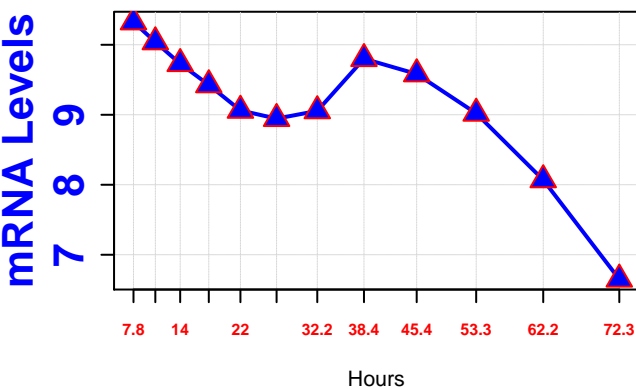
isoleucine biosynthesis



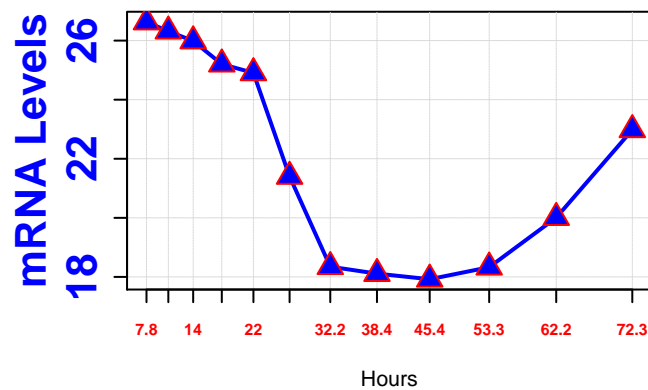
valine biosynthesis



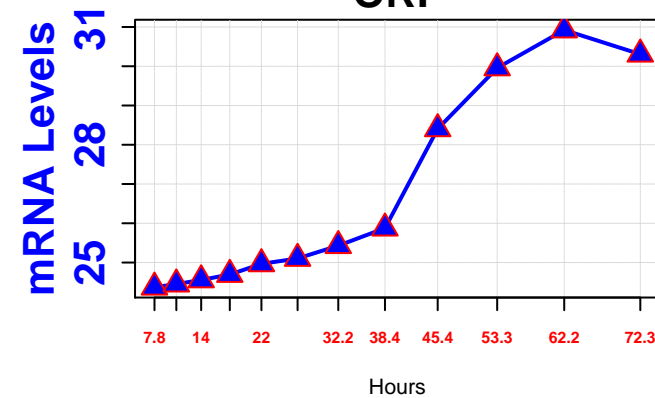
505: PGS1
YCL004W
ORF



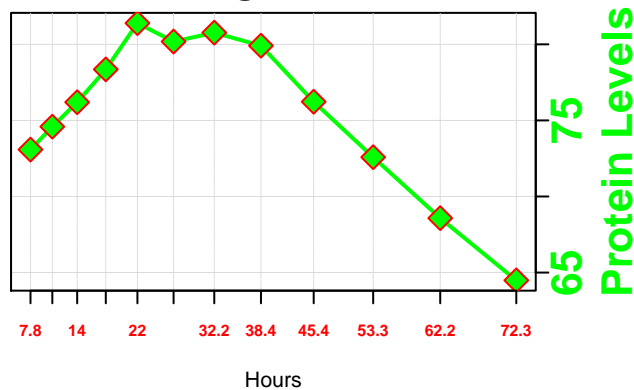
689: CRD1
YDL142C
ORF



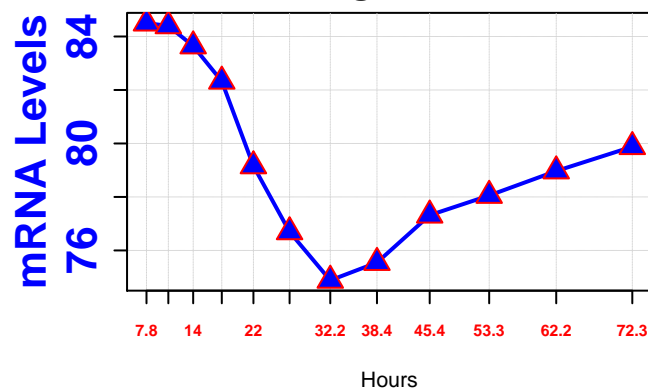
940: EKI1
YDR147W
ORF



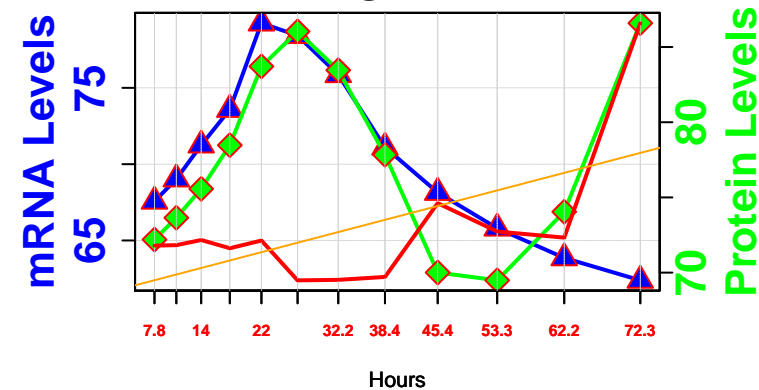
1576: CHO1
YER026C
ORF



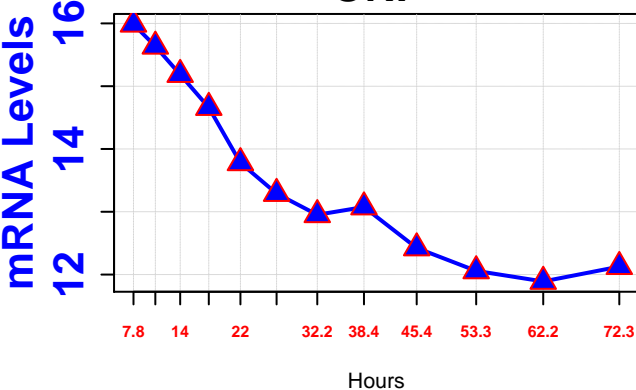
2077: ECT1
YGR007W
ORF



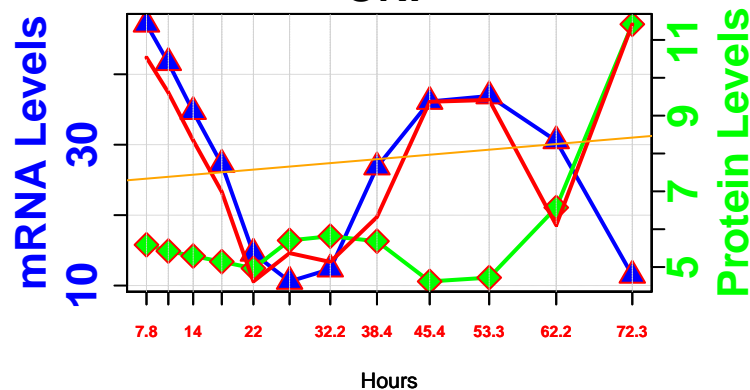
2204: CHO2
YGR157W
ORF



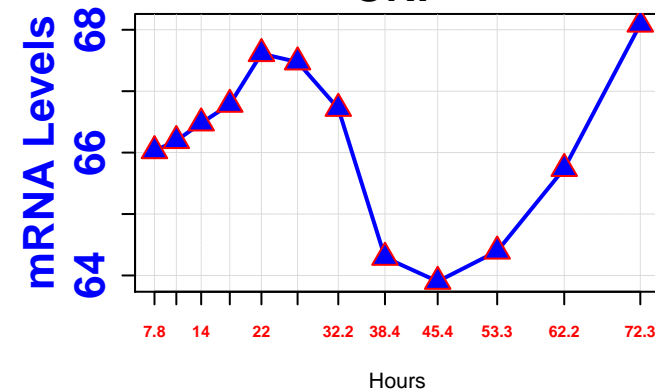
2216: PSD2
YGR170W
ORF



2245: PCT1
YGR202C
ORF

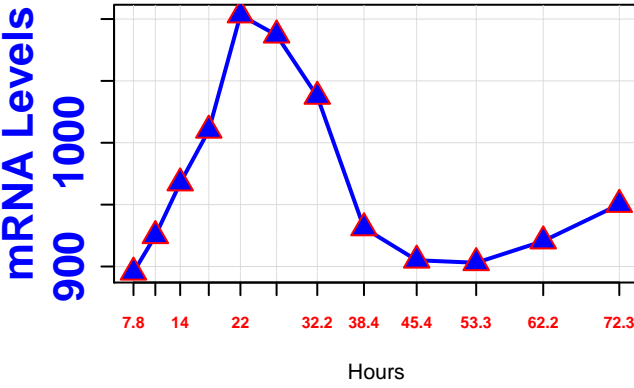


2484: EPT1
YHR123W
ORF

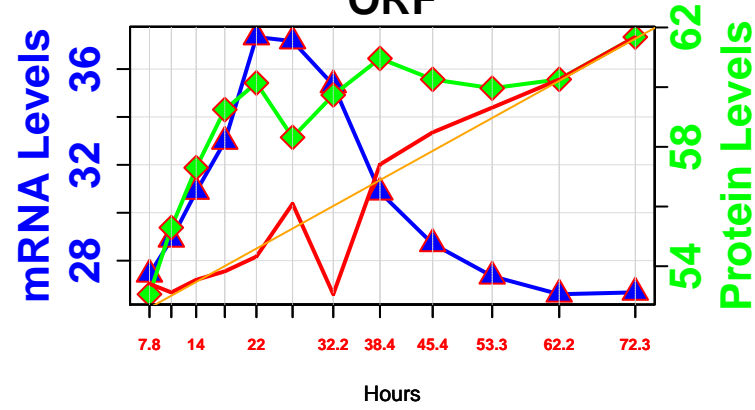


phospholipid biosynthesis

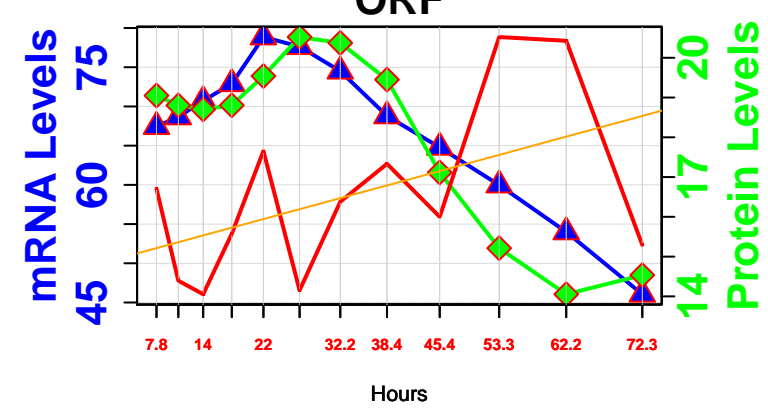
2802: OPI3
YJR073C
ORF



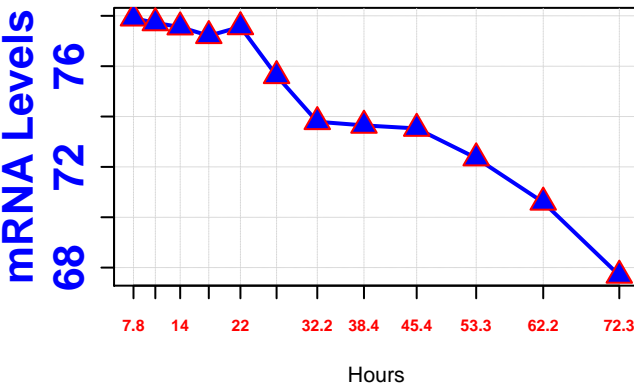
3318: CKI1
YLR133W
ORF



4145: PSD1
YNL169C
ORF

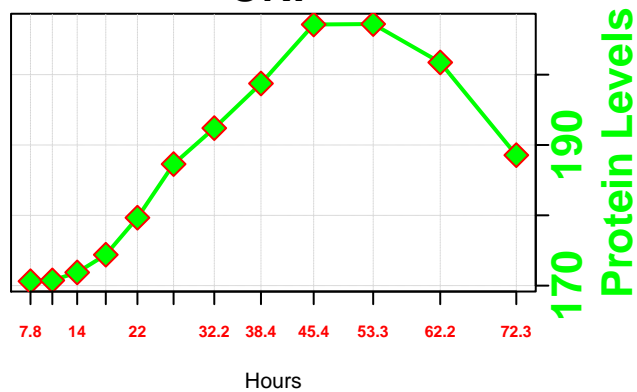


4179: CPT1
YNL130C
ORF

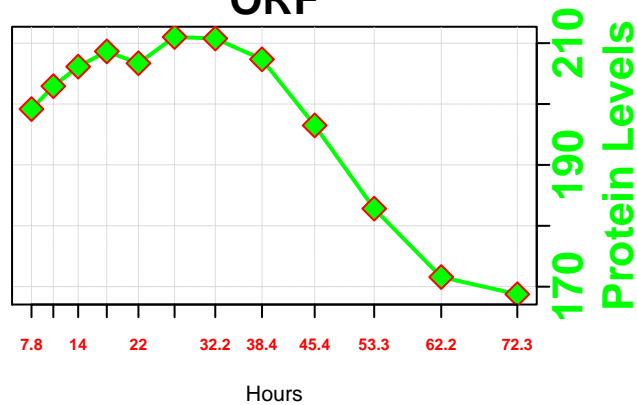


glyoxylate cycle

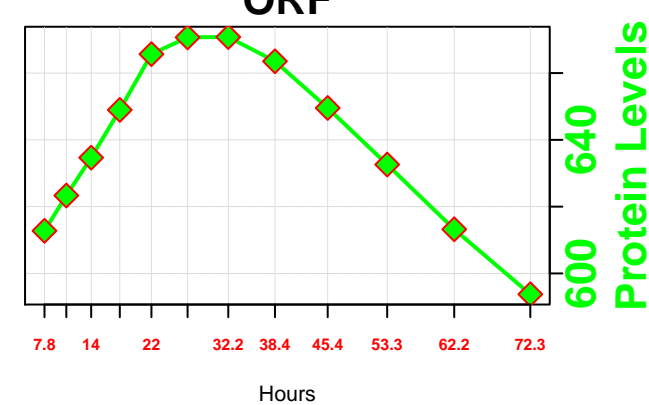
514: CIT2
YCR005C
ORF



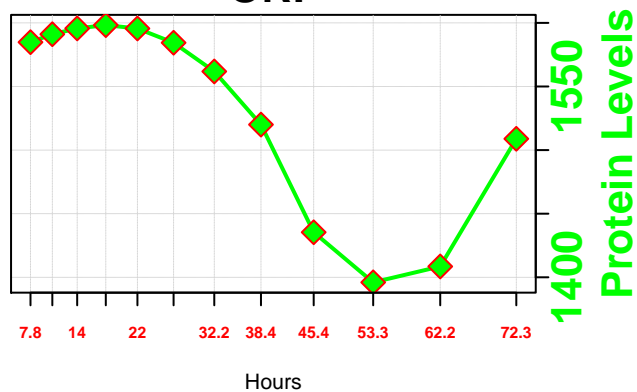
748: MDH3
YDL078C
ORF



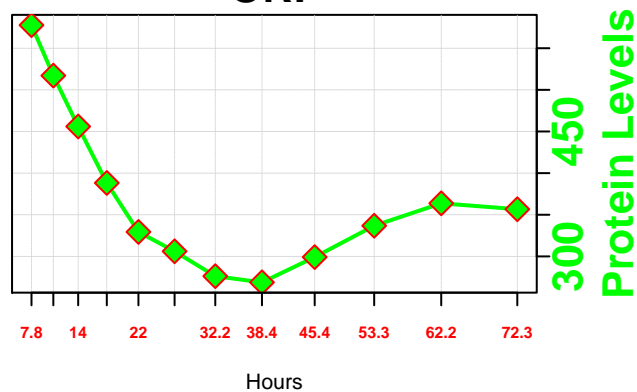
1473: DAL7
YIR031C
ORF



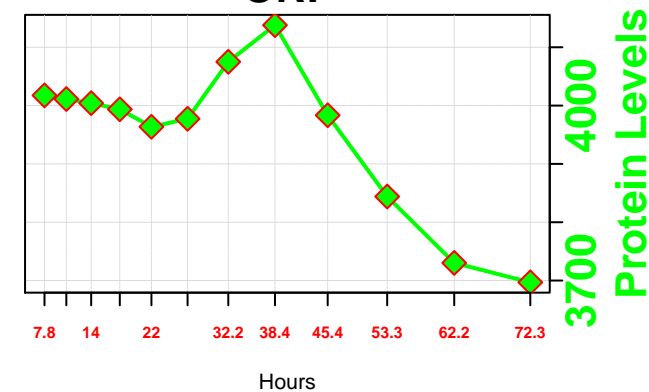
2580: ACO2
YJL200C
ORF



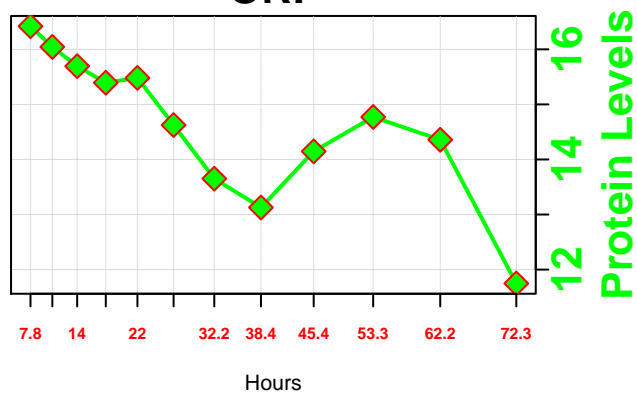
2988: MDH1
YKL085W
ORF



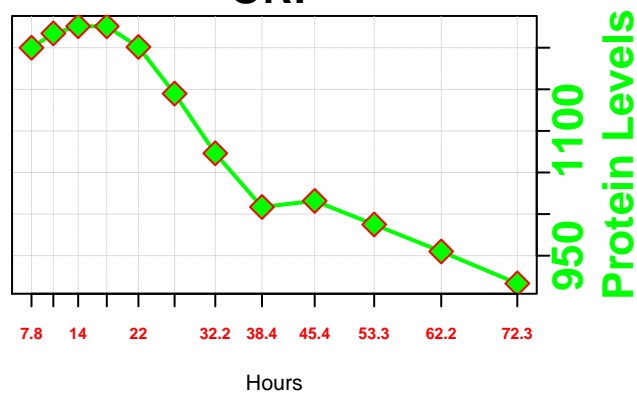
3463: ACO1
YLR304C
ORF



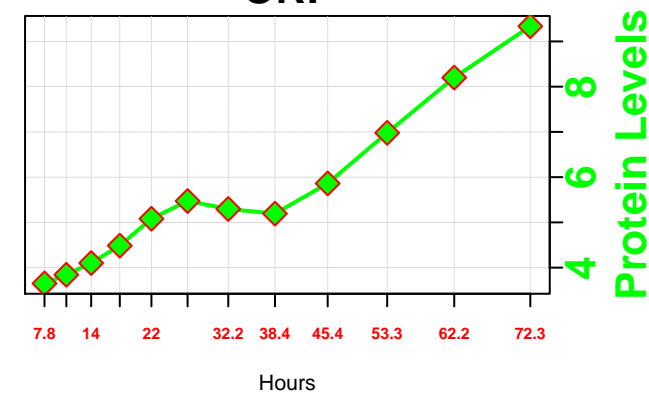
4189: MLS1
YNL117W
ORF



4287: CIT1
YNR001C
ORF

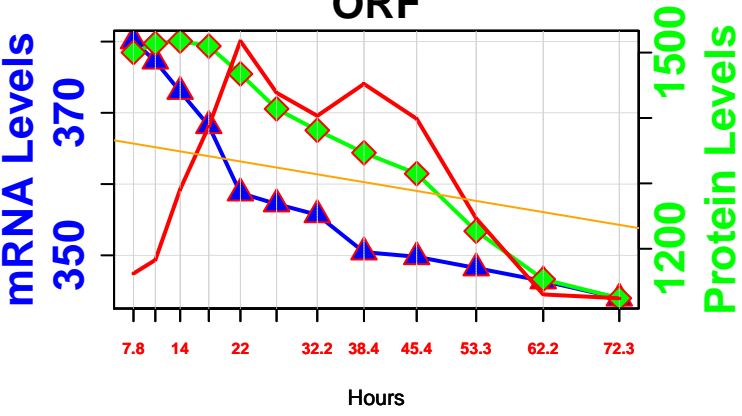


4379: MDH2
YOL126C
ORF

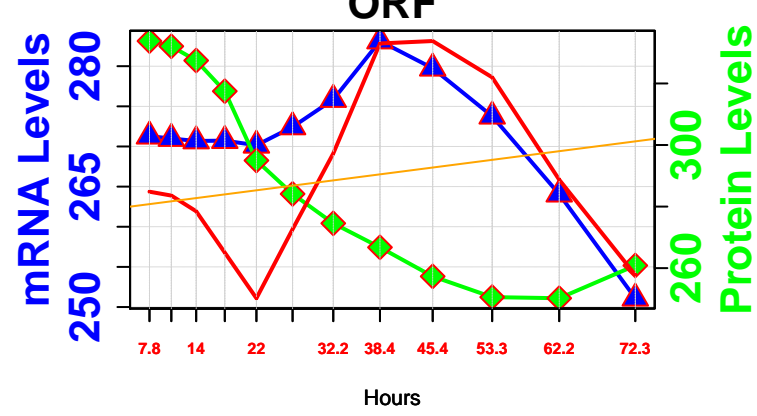


threonine biosynthesis

563: THR4
YCR053W
ORF

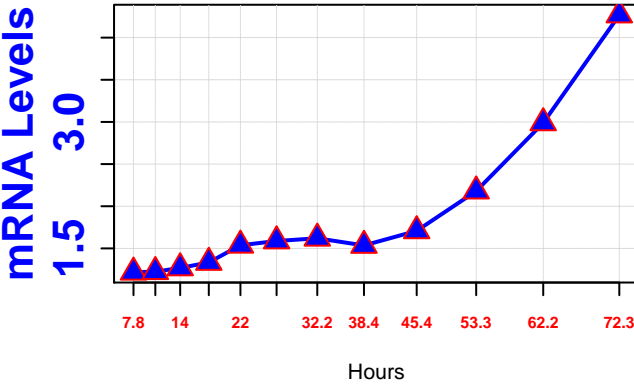


2391: THR1
YHR025W
ORF

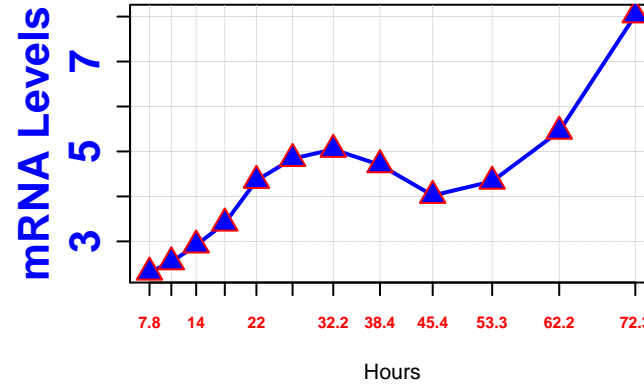


thiamine biosynthesis

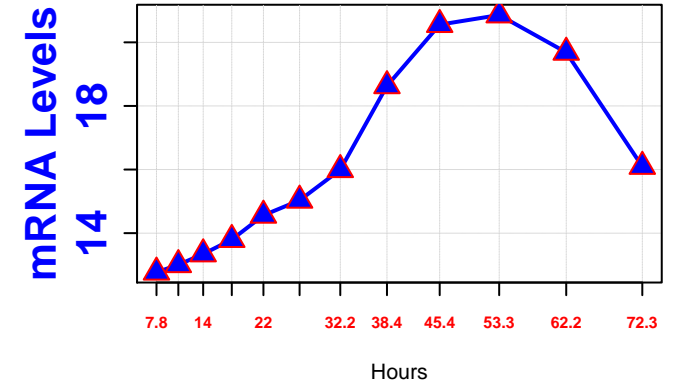
604: THI13
YDL244W
ORF



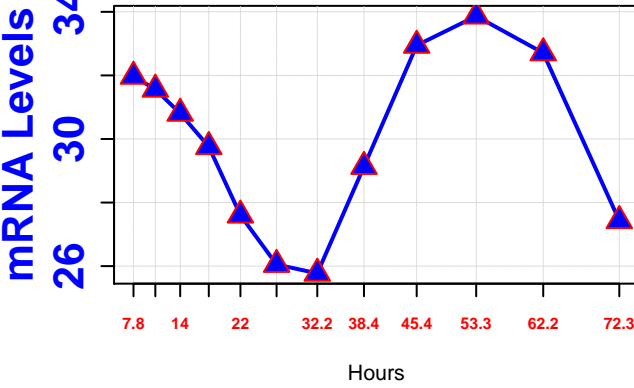
2878: THI11
YJR156C
ORF



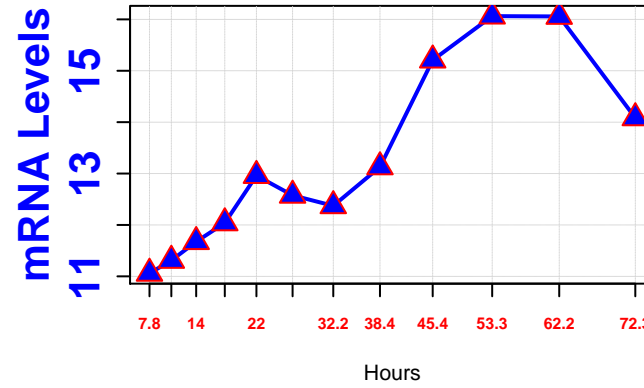
4434: THI20
YOL055C
ORF



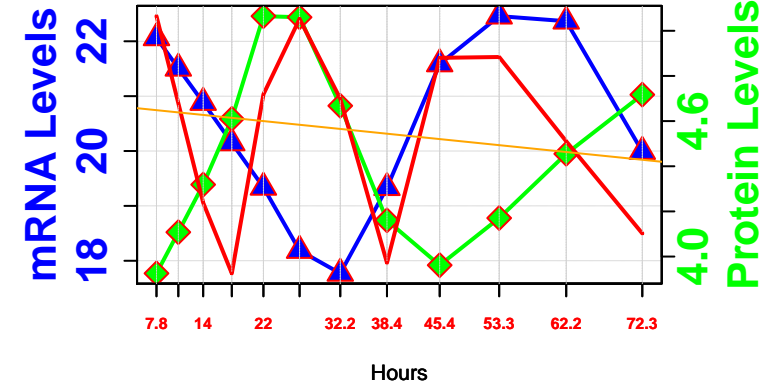
4604: THI80
YOR143C
ORF



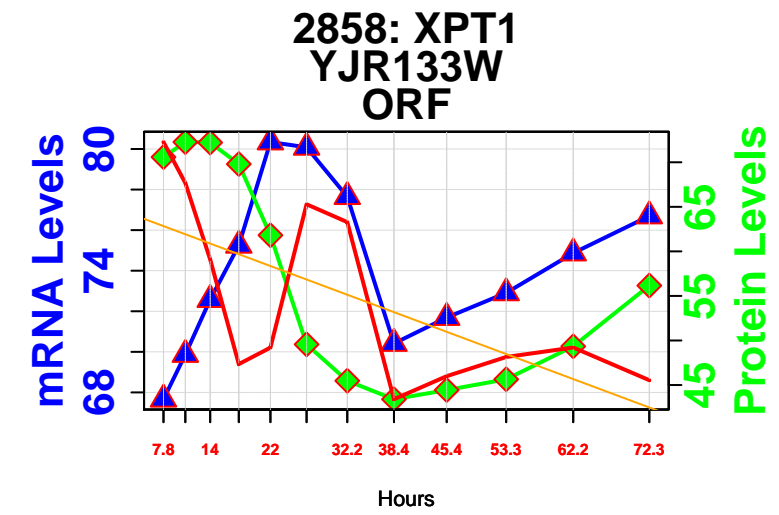
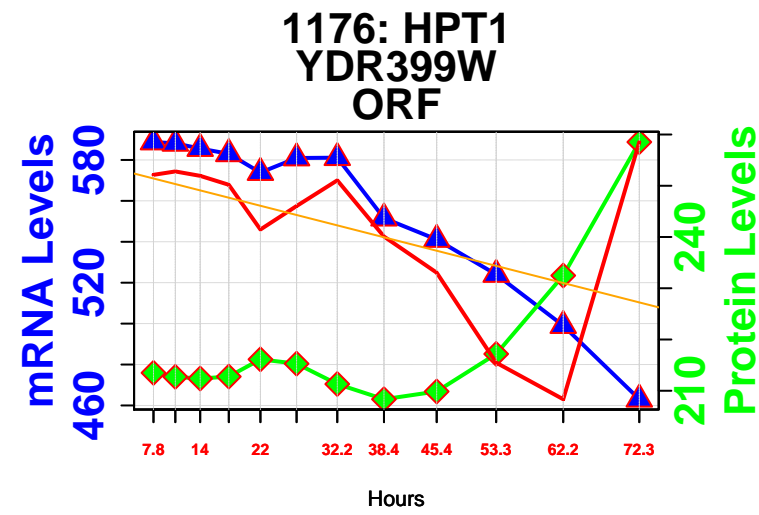
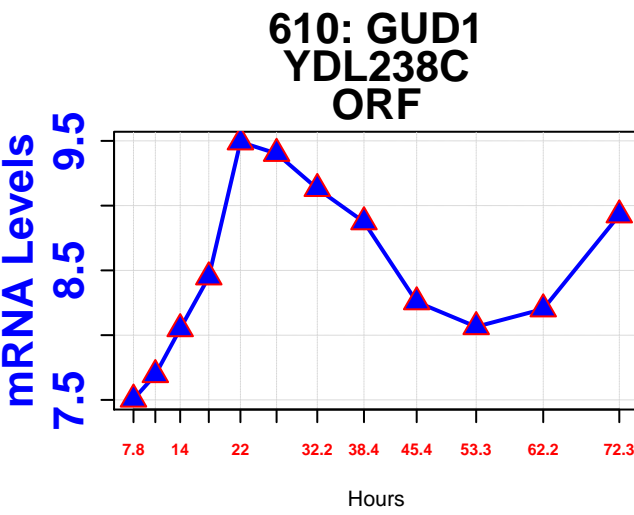
4838: THI21
YPL258C
ORF



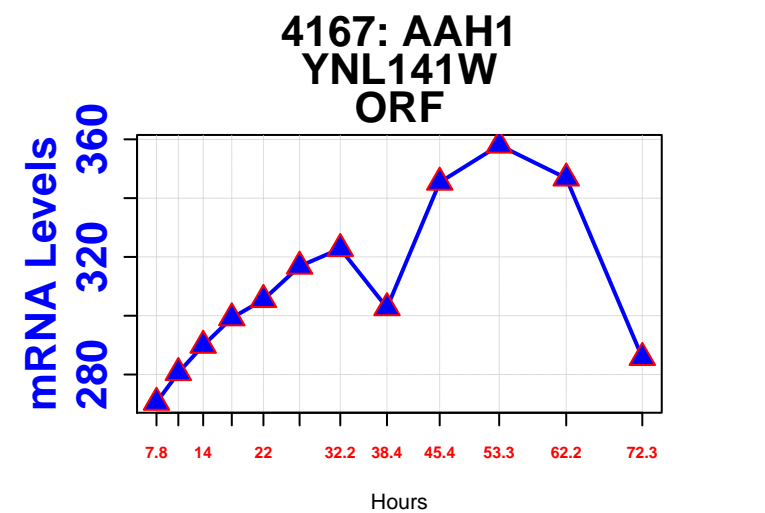
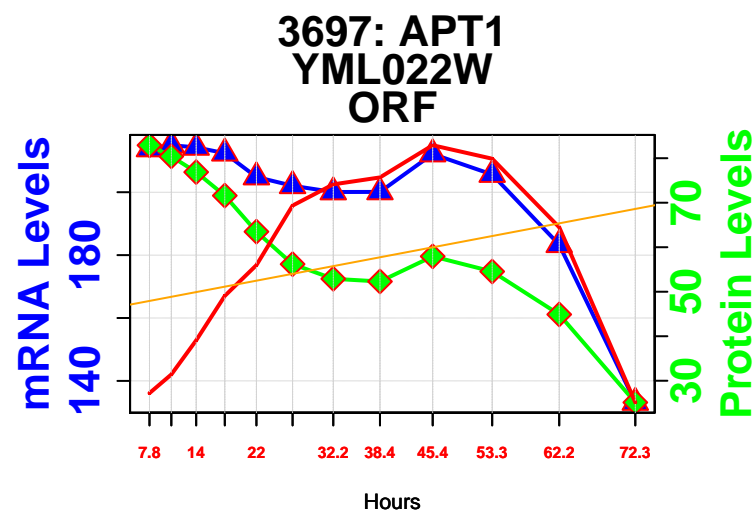
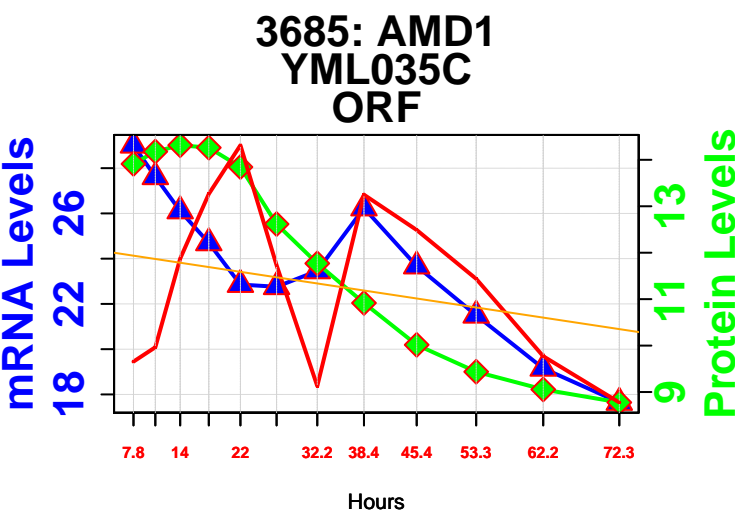
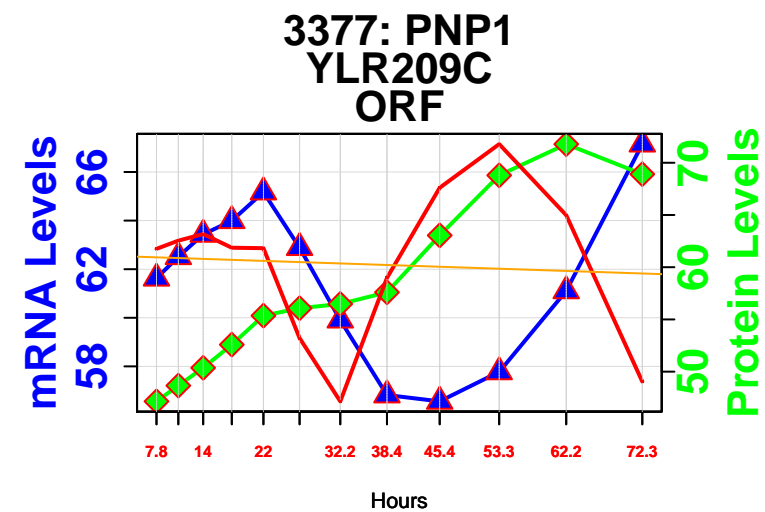
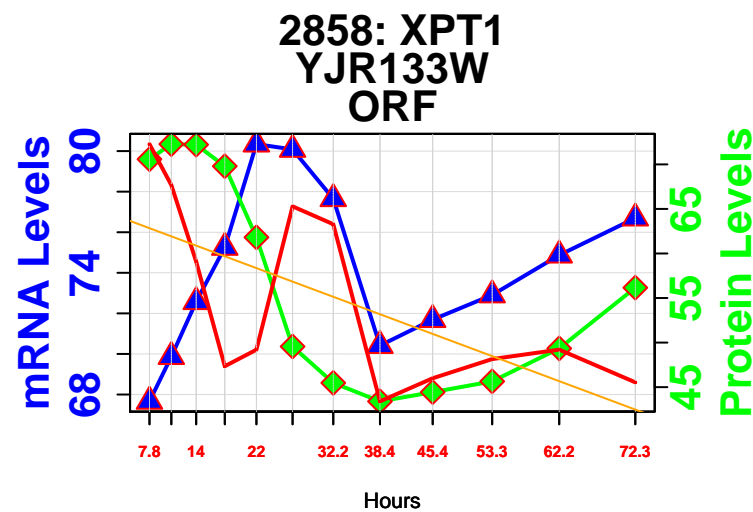
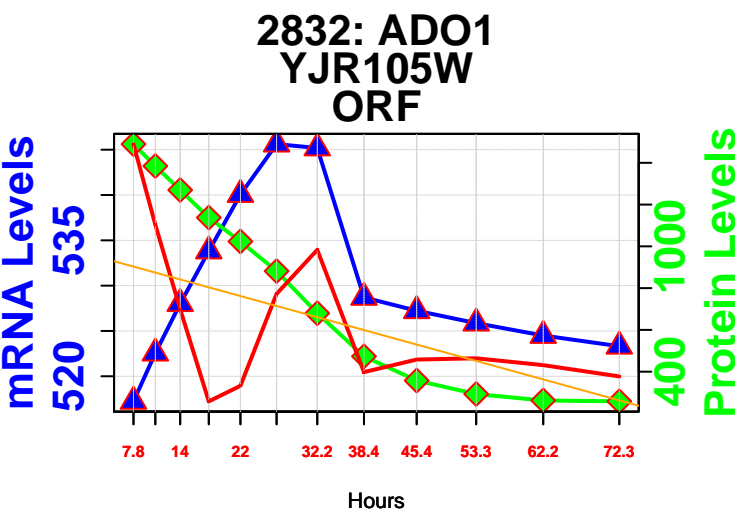
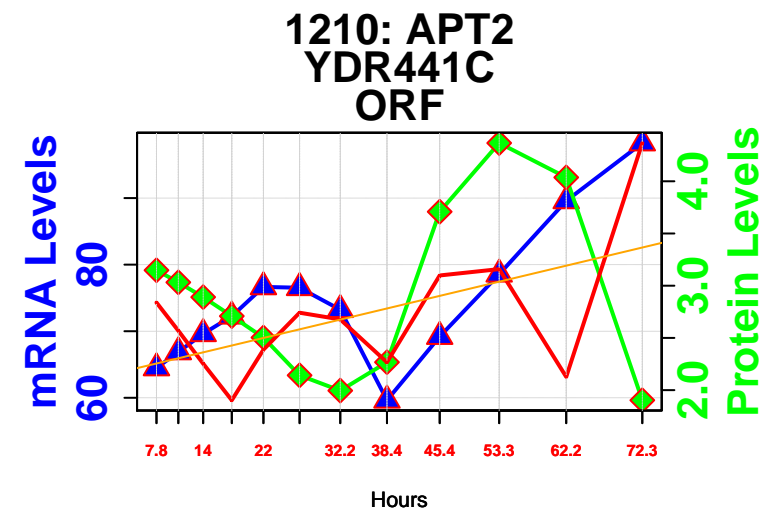
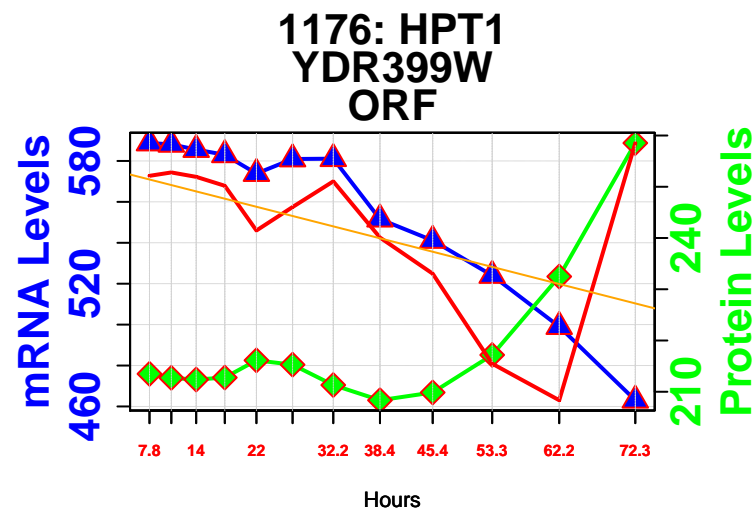
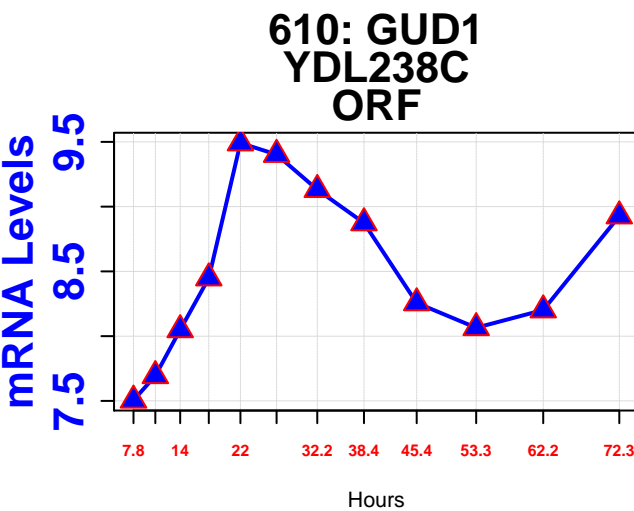
4877: THI6
YPL214C
ORF



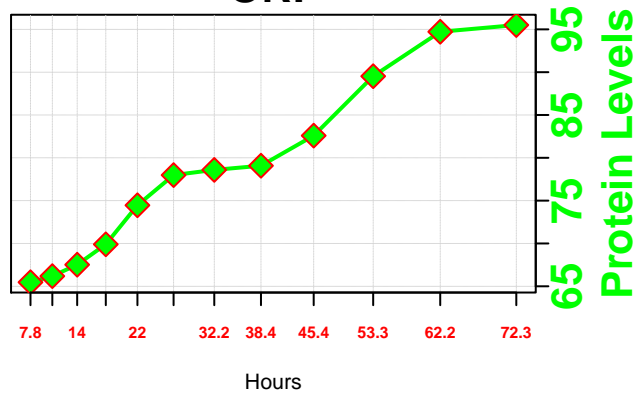
salvage pathways of guanine, xanthine and their nucleosides



salvage pathways of purines and their nucleosides

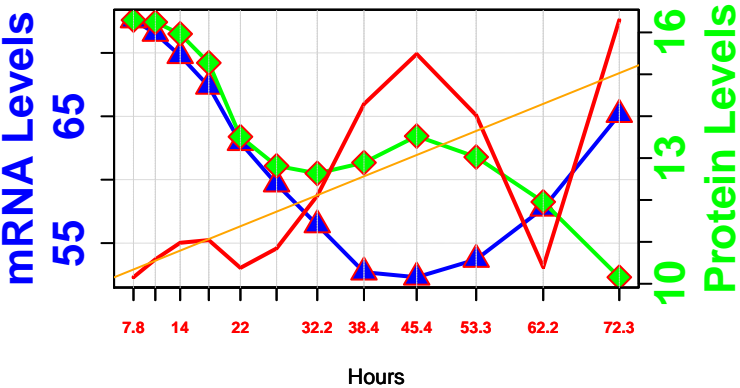


629: GDH2
YDL215C
ORF

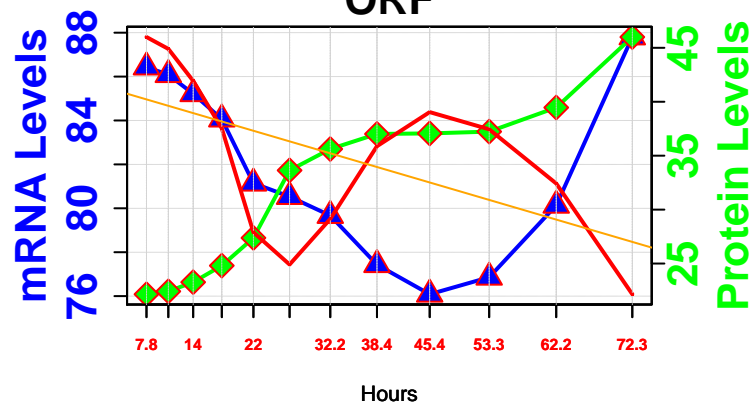


tetrapyrrole biosynthesis

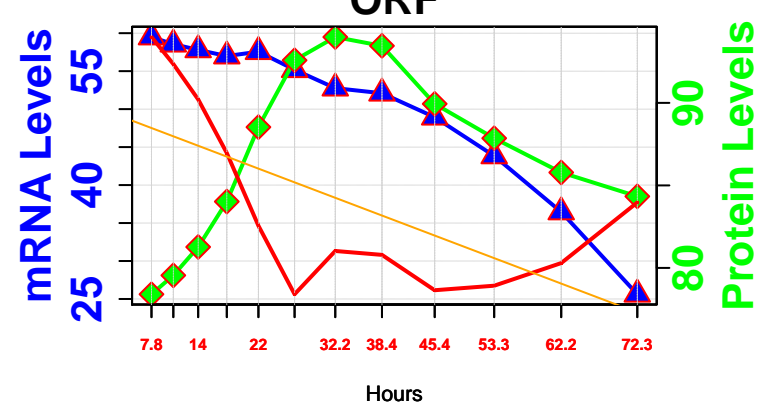
634: HEM3
YDL205C
ORF



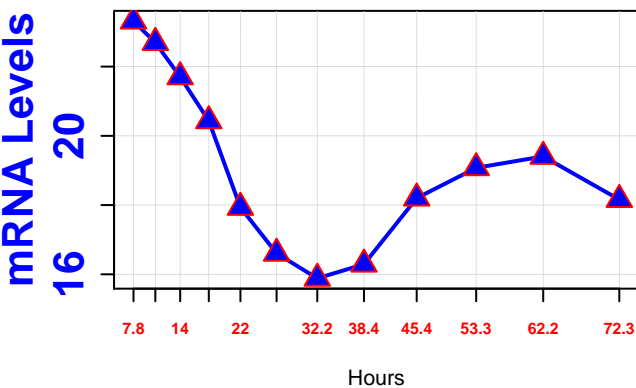
1018: HEM1
YDR232W
ORF



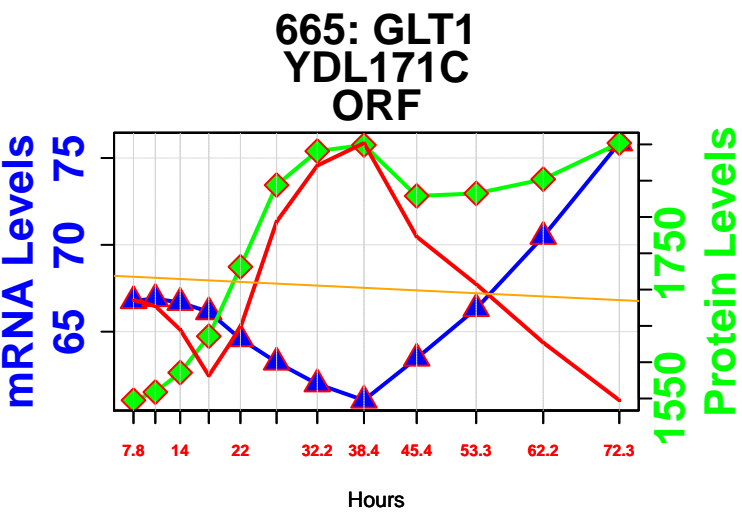
2037: HEM2
YGL040C
ORF



4722: HEM4
YOR278W
ORF

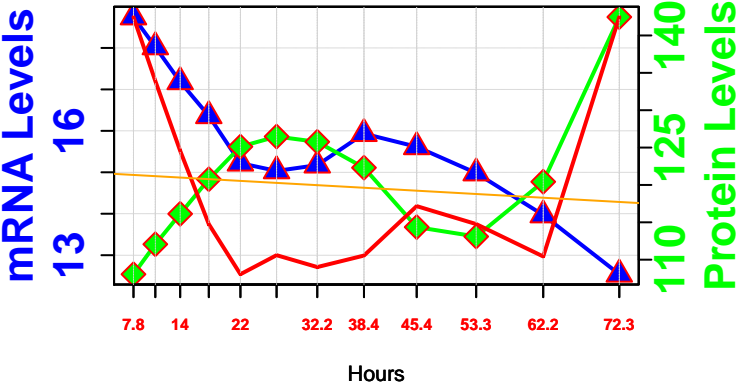


format, data, and visualization (e.g., for independent)

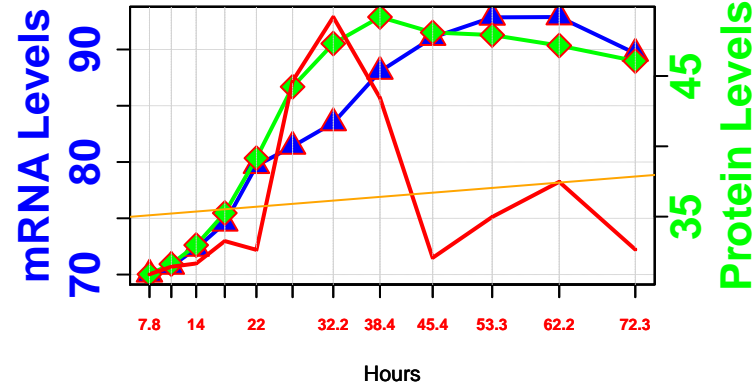


UDP-N-acetylglucosamine biosynthesis

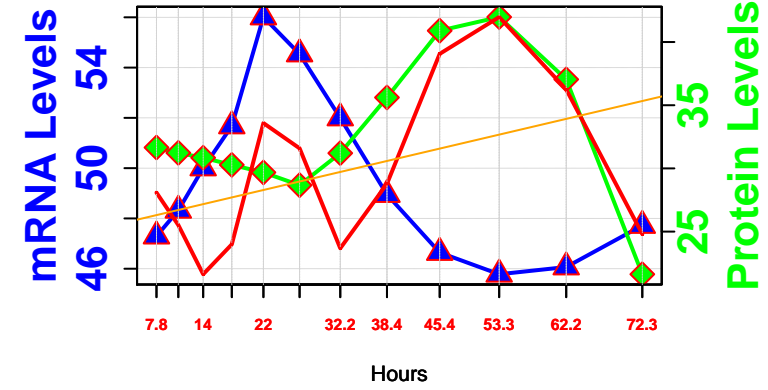
724: QRI1
YDL103C
ORF



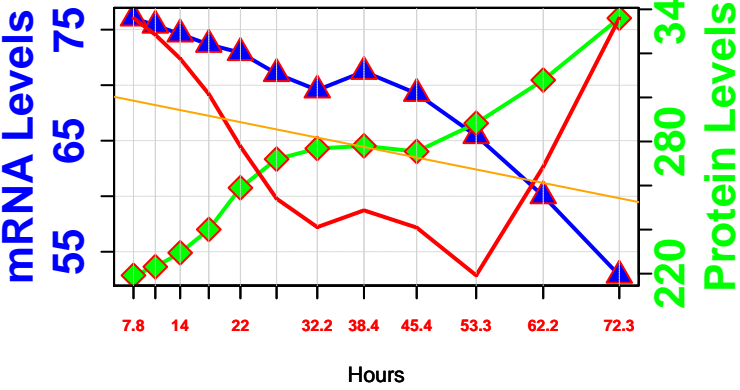
1493: PCM1
YEL058W
ORF



1773: GNA1
YFL017C
ORF

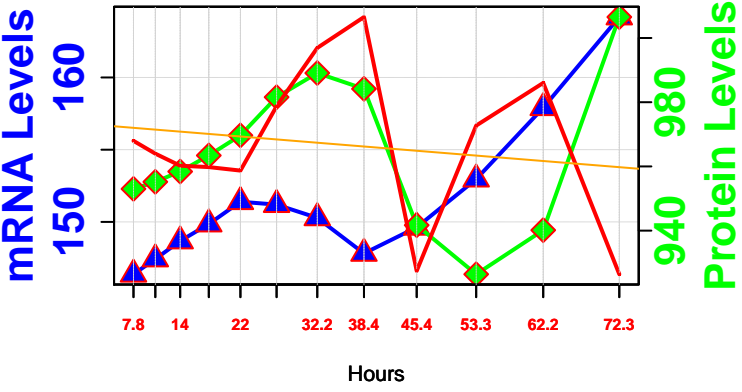


2974: GFA1
YKL104C
ORF

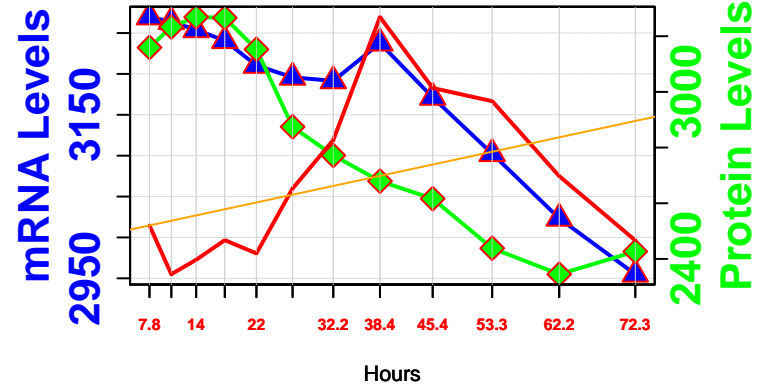


superpathway of glutamate biosynthesis

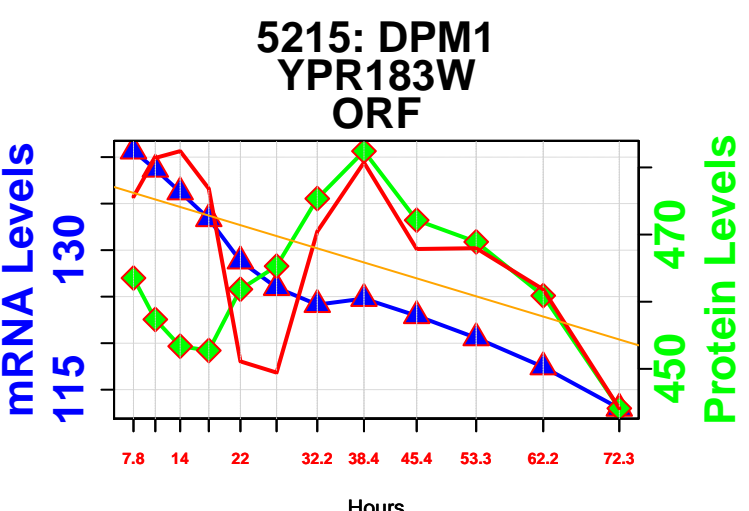
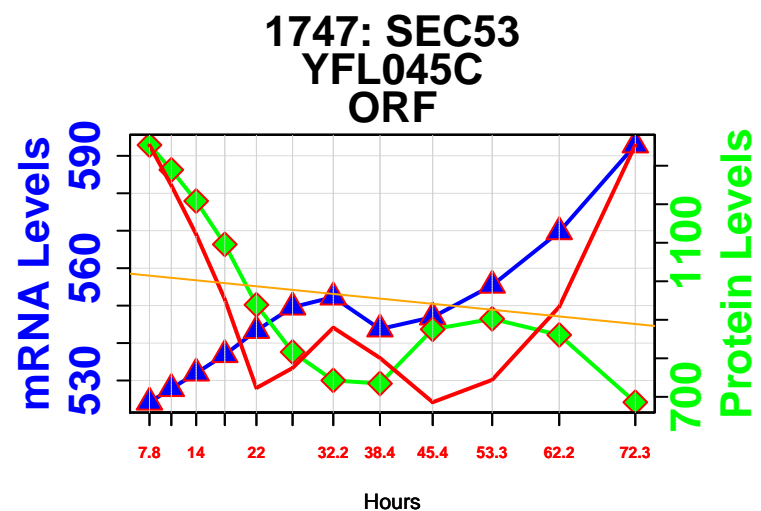
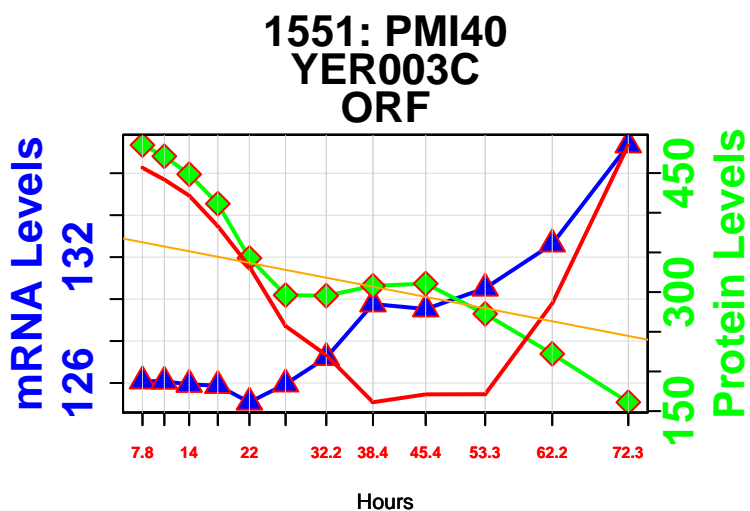
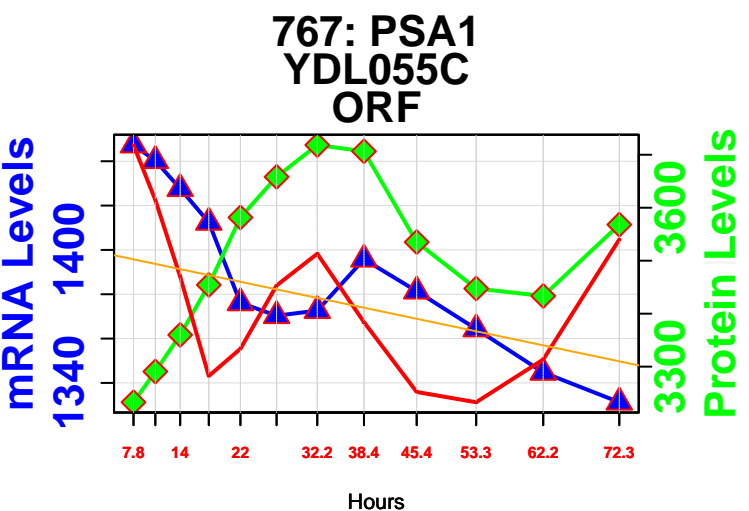
760: IDP1
YDL066W
ORF



5077: GLN1
YPR035W
ORF

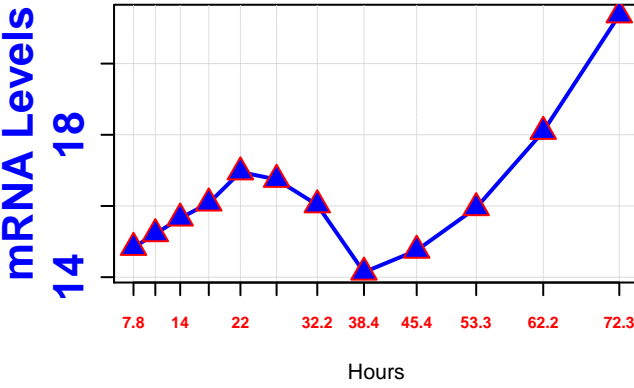


dolichyl phosphate D-mannose biosynthesis

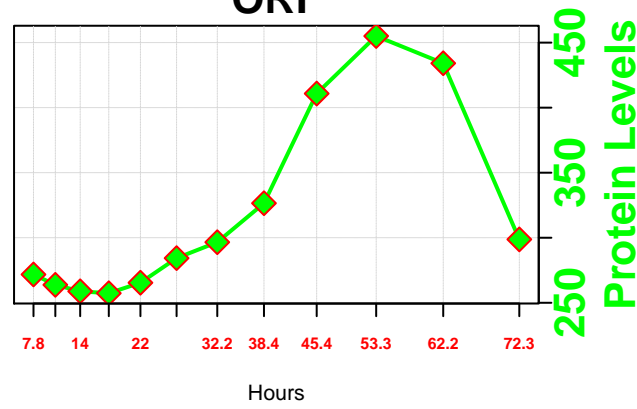


NAD salvage pathway

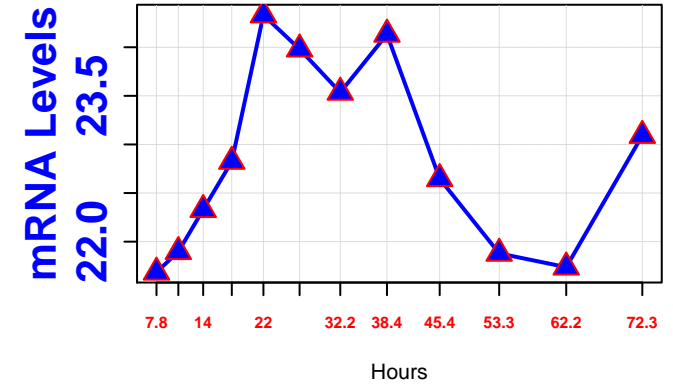
780: SIR2
YDL042C
ORF



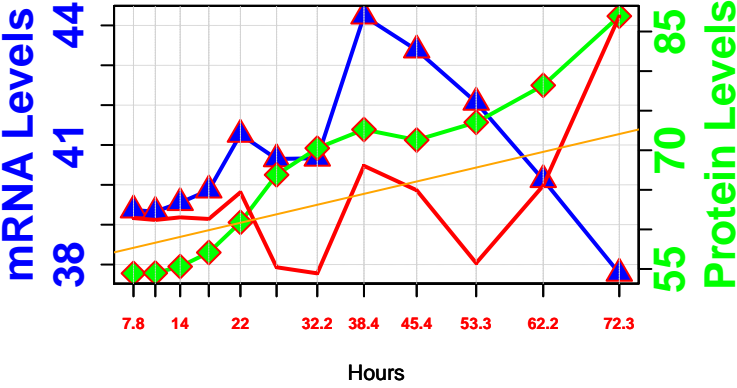
2039: PNC1
YGL037C
ORF



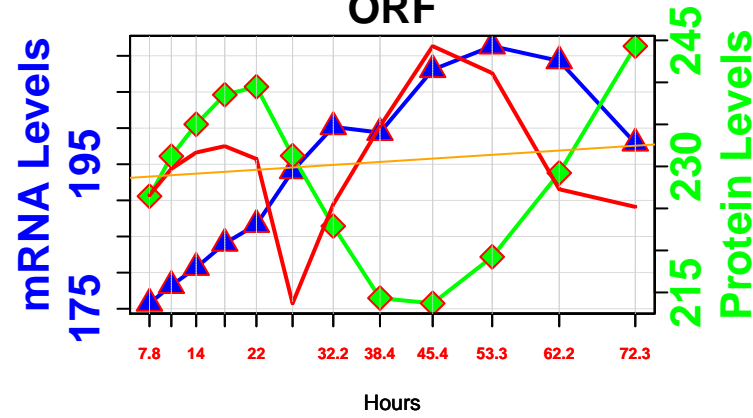
2079: NMA2
YGR010W
ORF



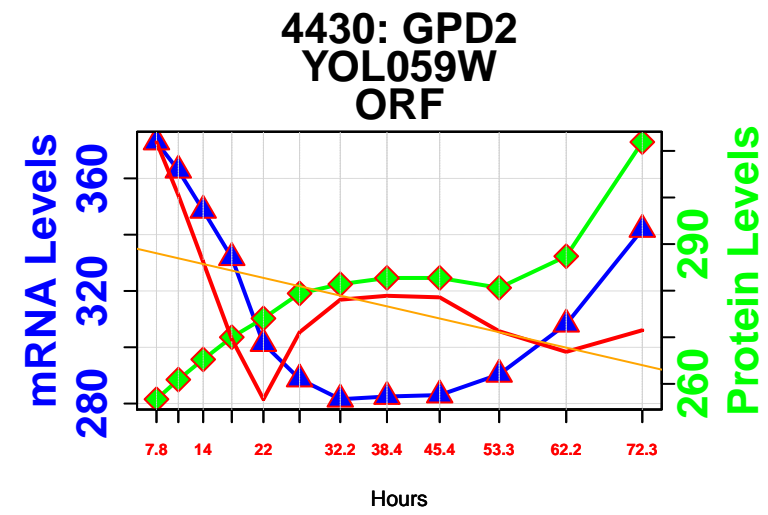
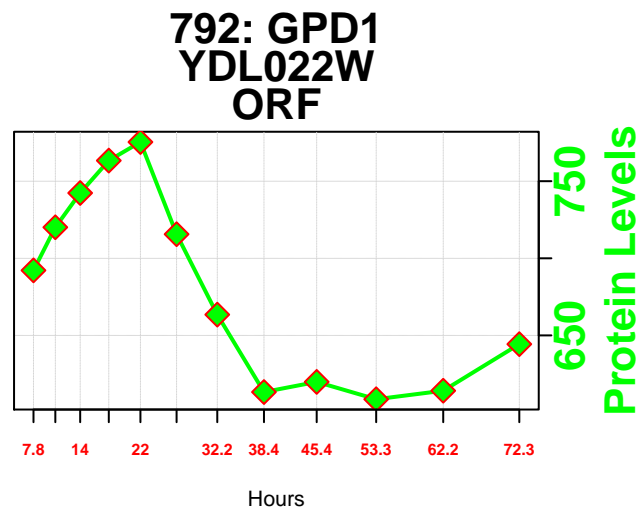
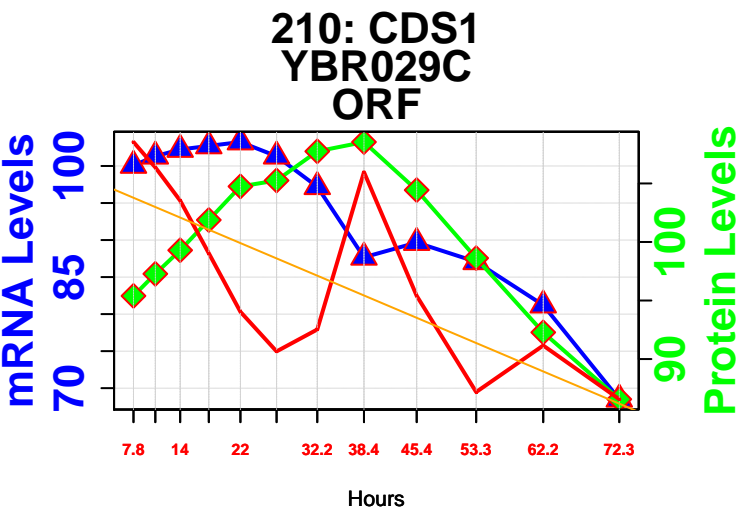
2444: QNS1
YHR074W
ORF



4663: NPT1
YOR209C
ORF

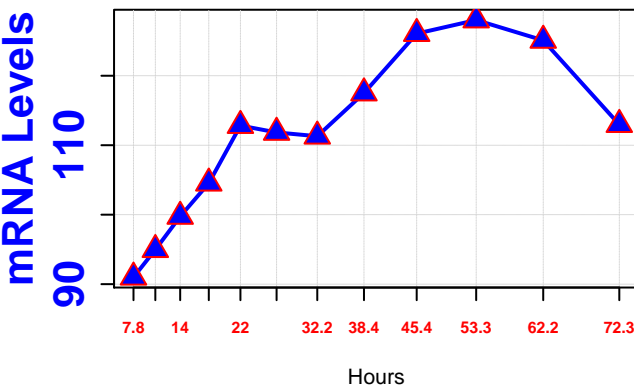


glycerol biosynthesis

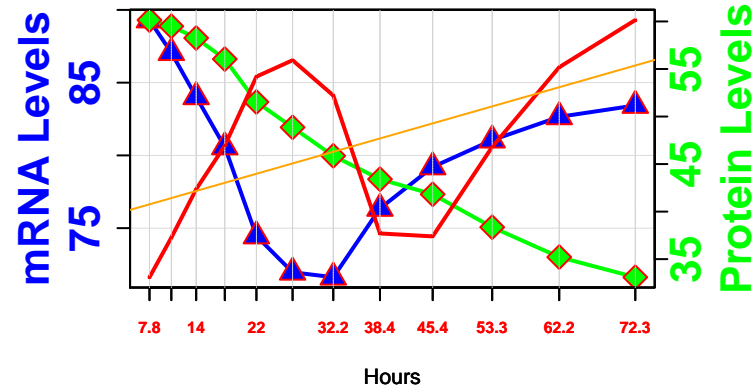


tryptophan biosynthesis

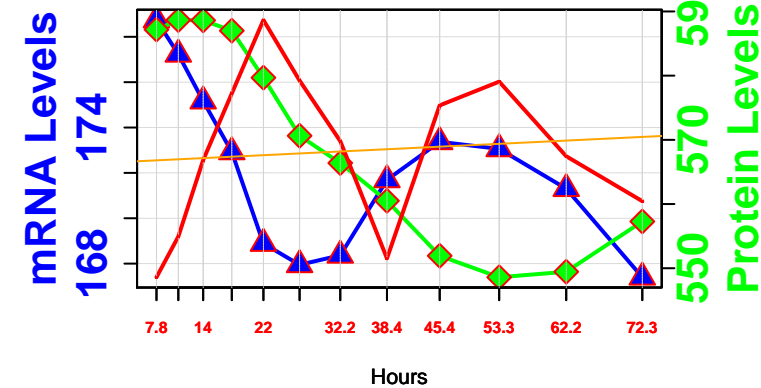
817: TRP1
YDR007W
ORF



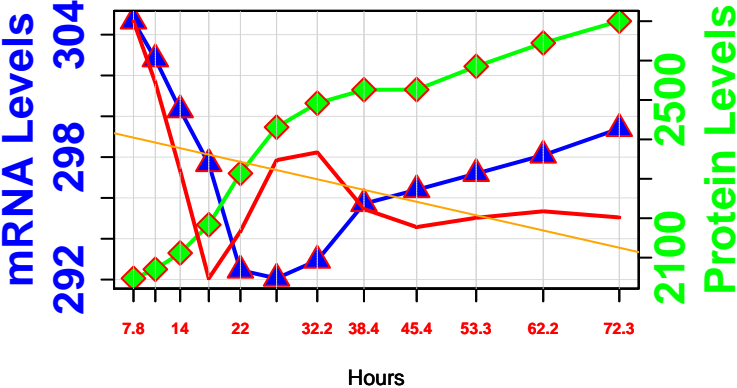
1129: TRP4
YDR354W
ORF



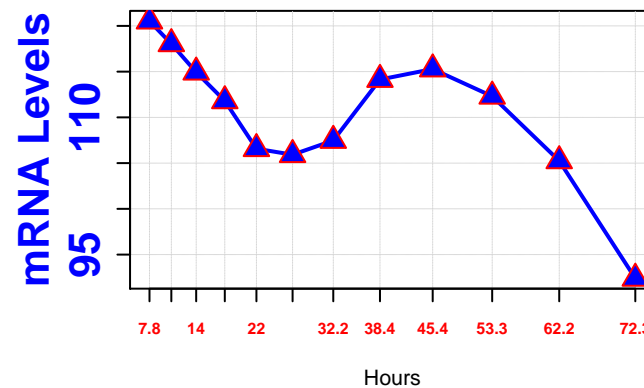
1644: TRP2
YER090W
ORF



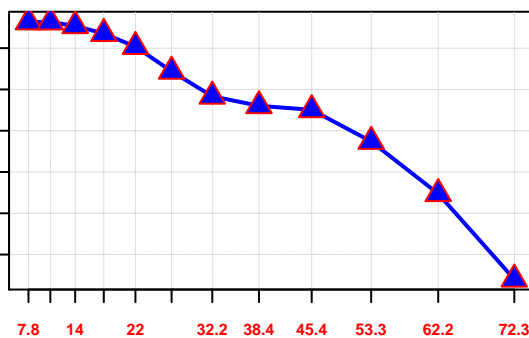
2045: TRP5
YGL026C
ORF



2891: TRP3
YKL211C
ORF

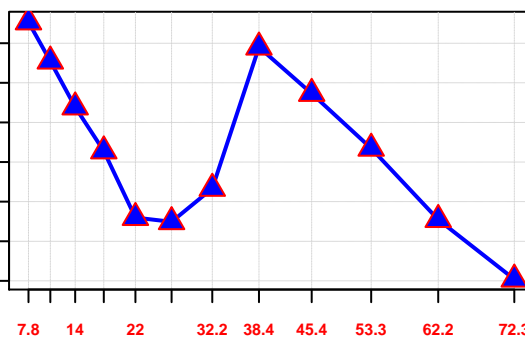


mRNA Levels

20
14824: KCS1
YDR017C
ORF

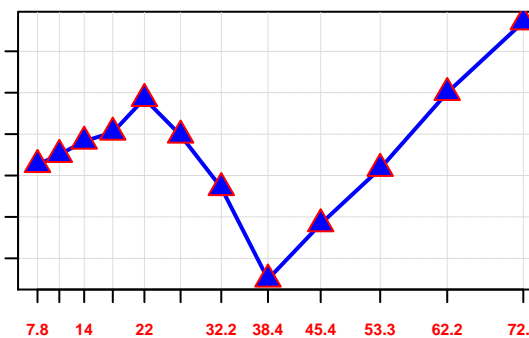
Hours

mRNA Levels

24
21
18996: MSS4
YDR208W
ORF

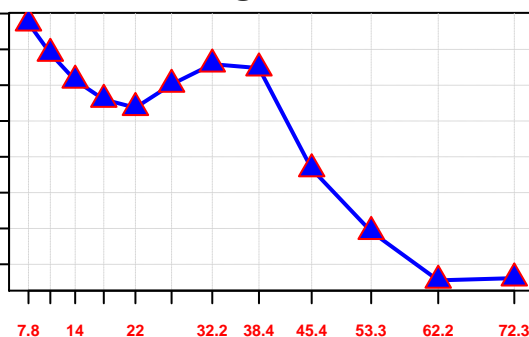
Hours

mRNA Levels

13
101094: IPK1
YDR315C
ORF

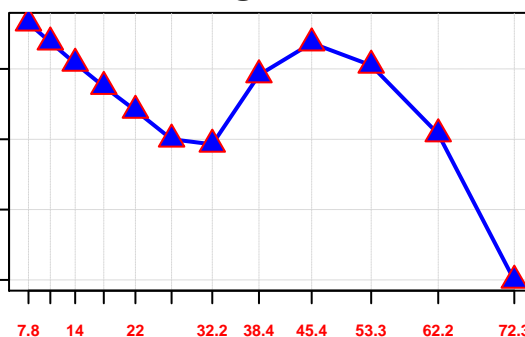
Hours

mRNA Levels

9.5
8.0
6.51449: INP51
YIL002C
ORF

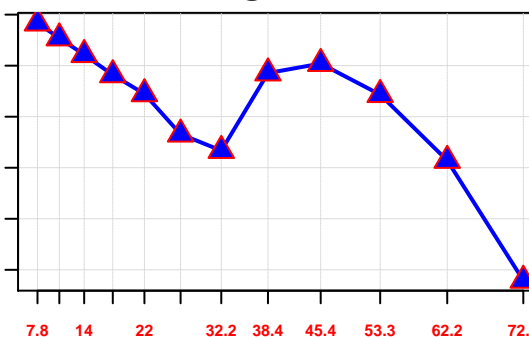
Hours

mRNA Levels

8
6
42659: LSB6
YJL100W
ORF

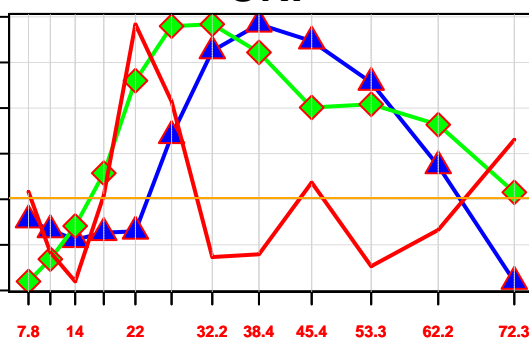
Hours

mRNA Levels

13
11
92836: YMR1
YJR110W
ORF

Hours

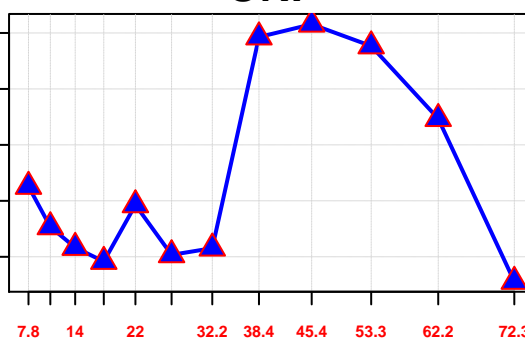
mRNA Levels

104.5
102.52890: SAC1
YKL212W
ORF

Hours

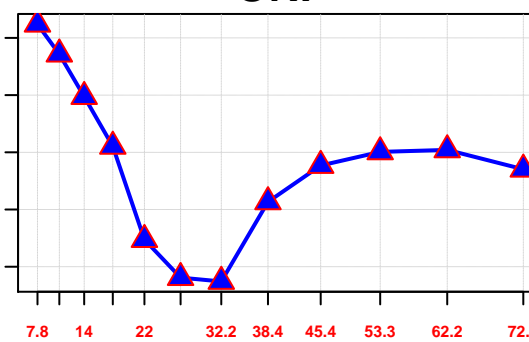
Protein Levels

mRNA Levels

10.0
9.63405: VPS34
YLR240W
ORF

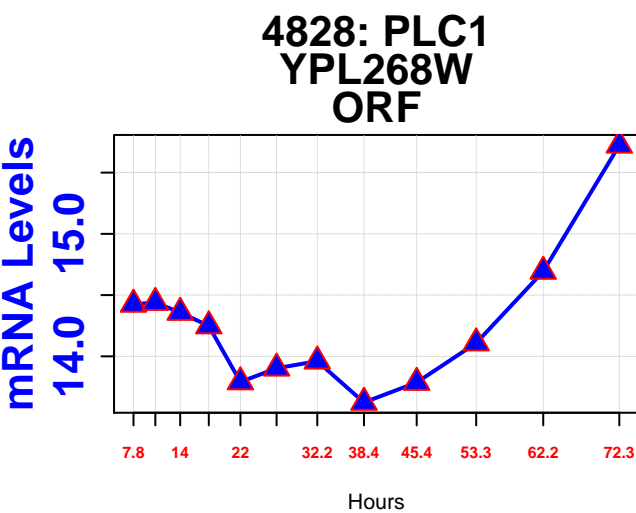
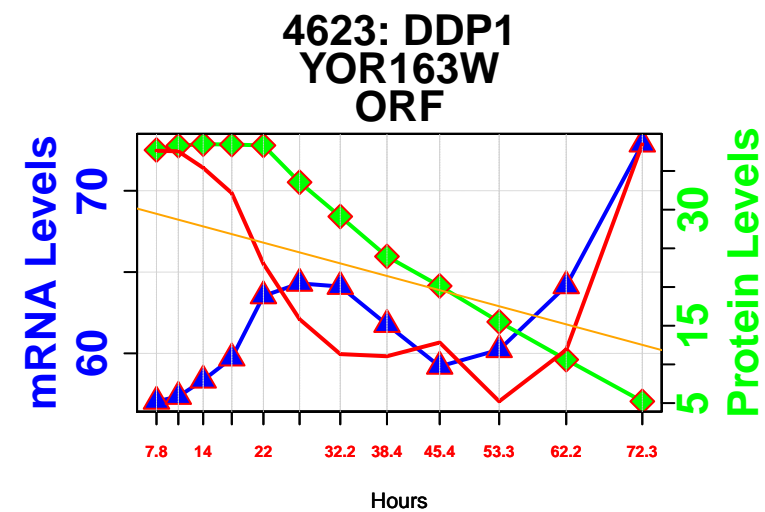
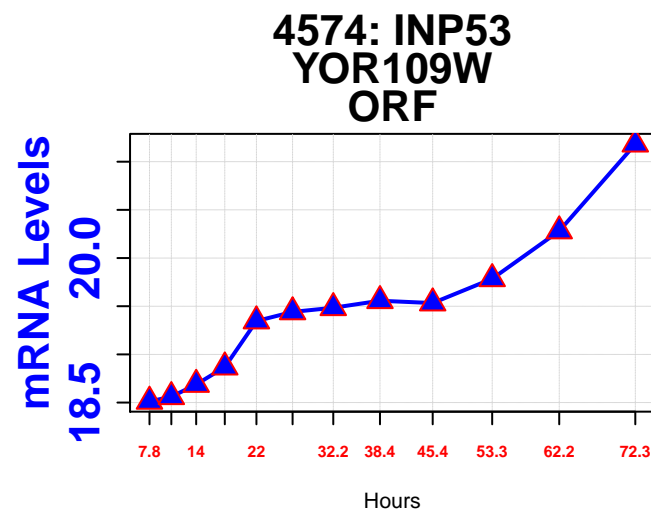
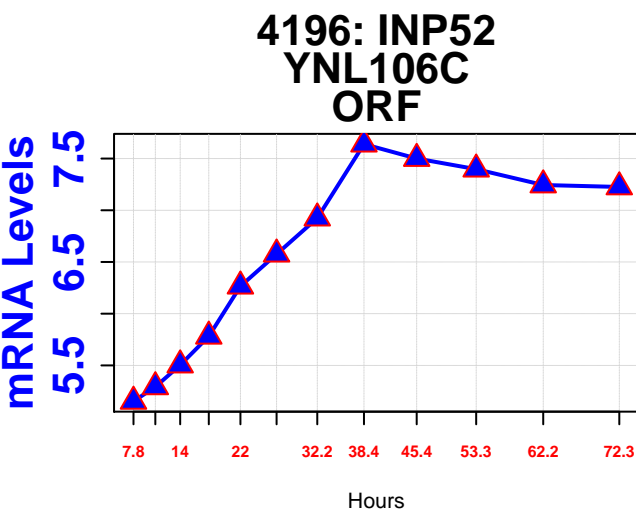
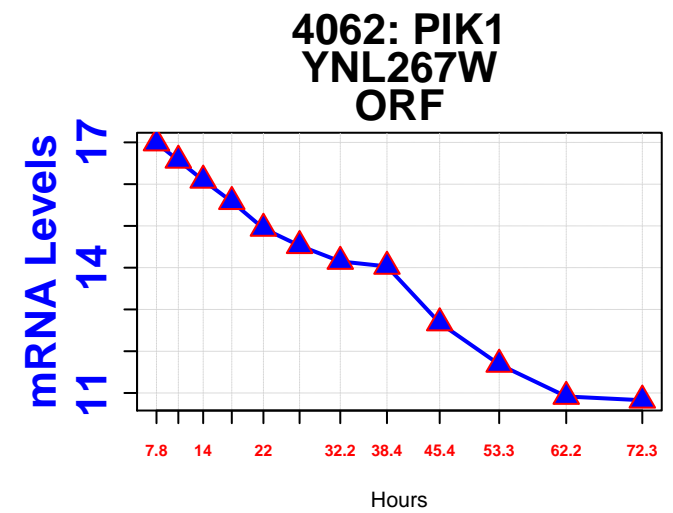
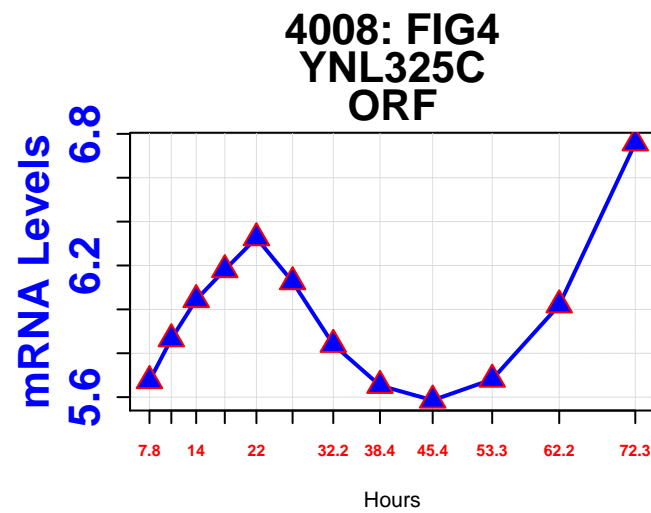
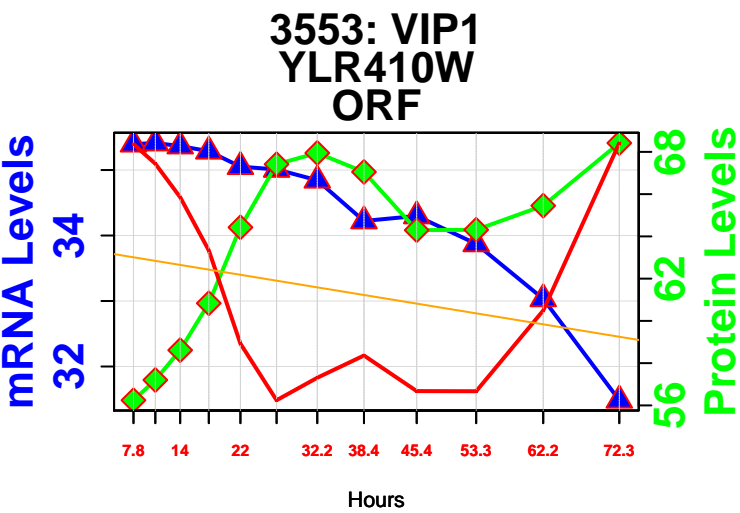
Hours

mRNA Levels

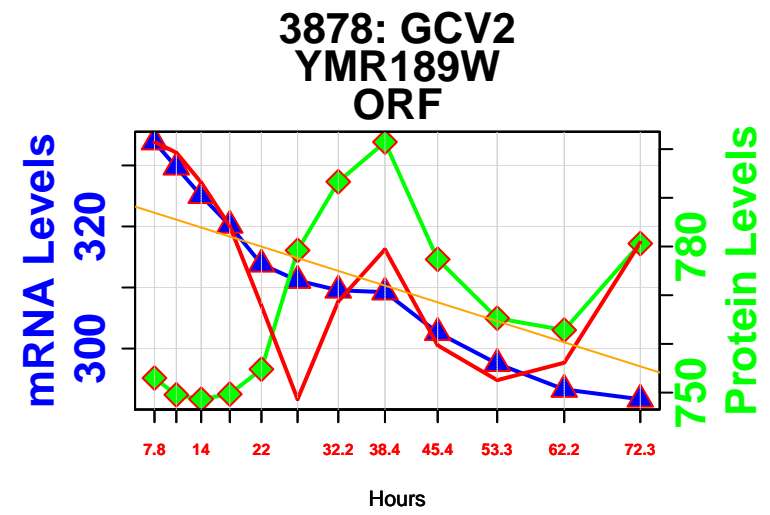
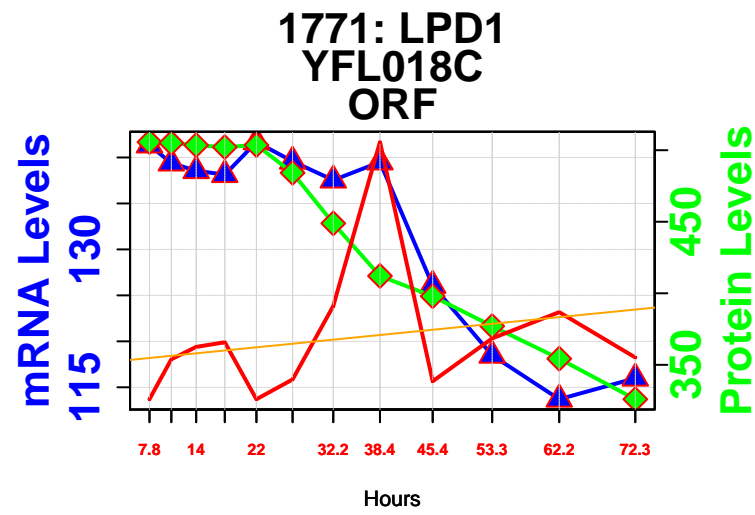
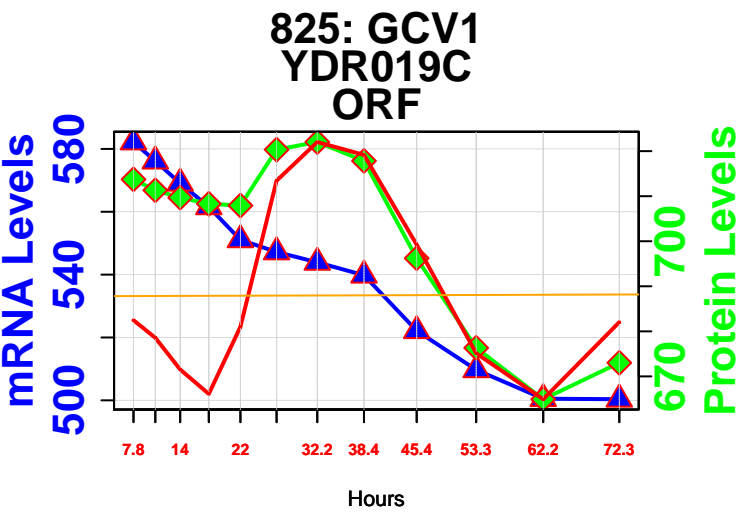
10.5
9.5
8.53464: STT4
YLR305C
ORF

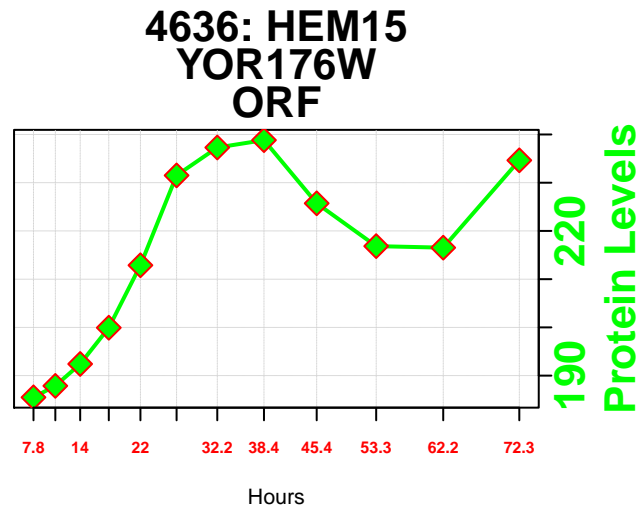
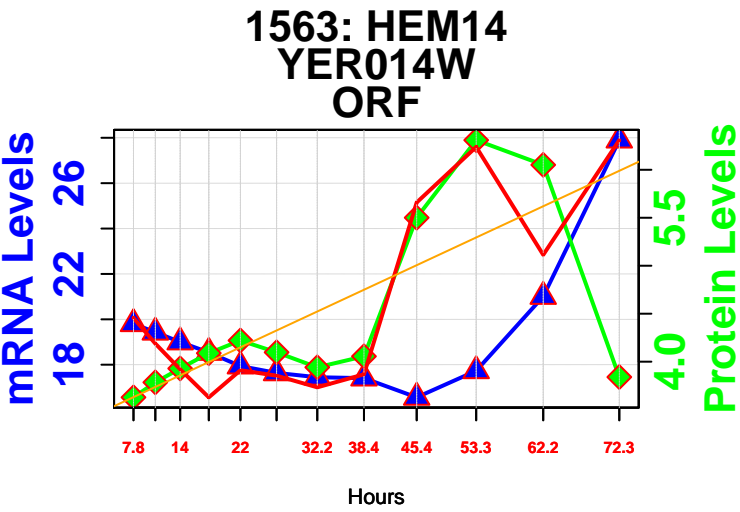
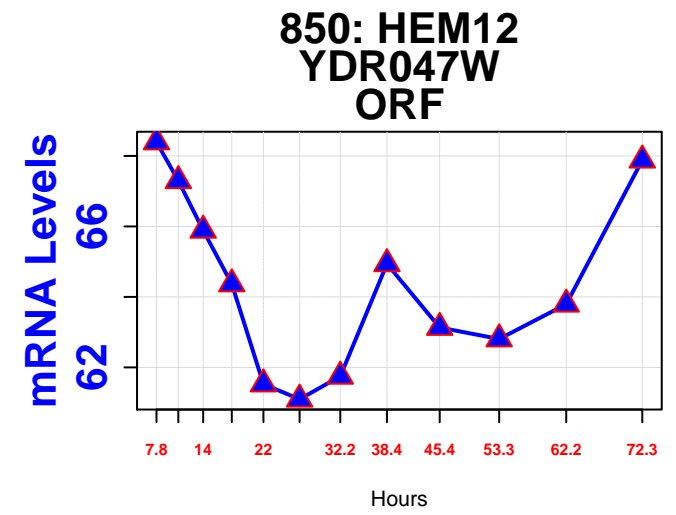
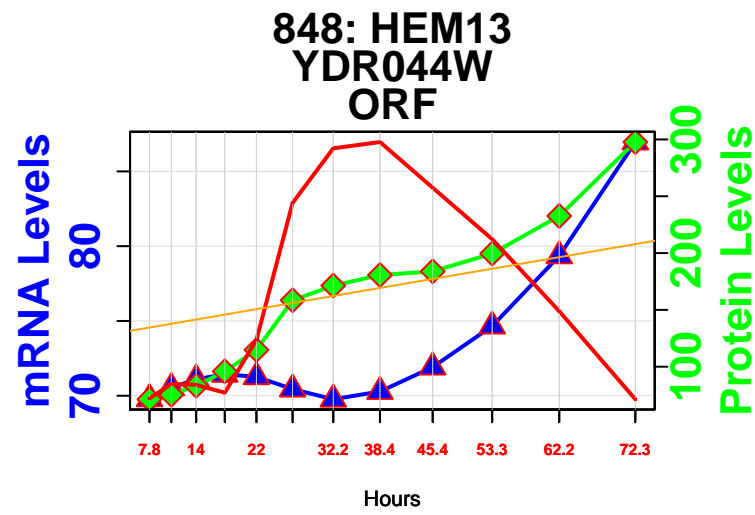
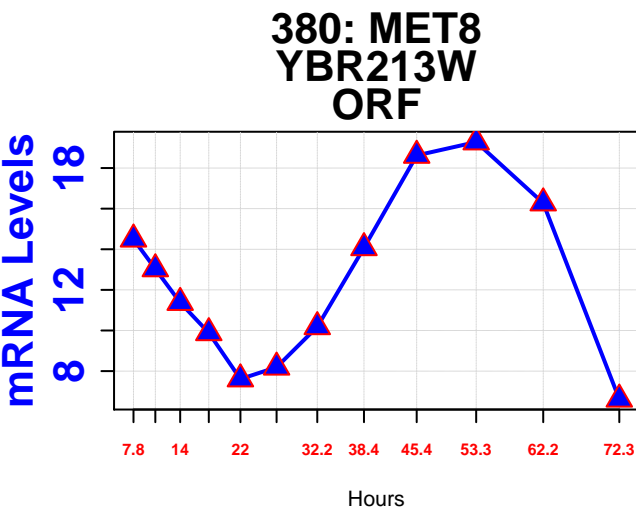
Hours

inositol phosphate biosynthesis



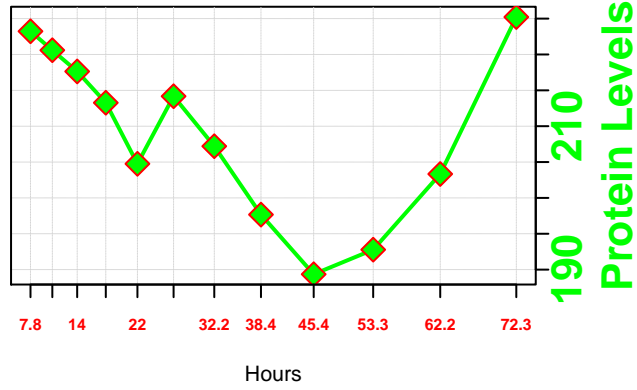
glycine cleavage complex



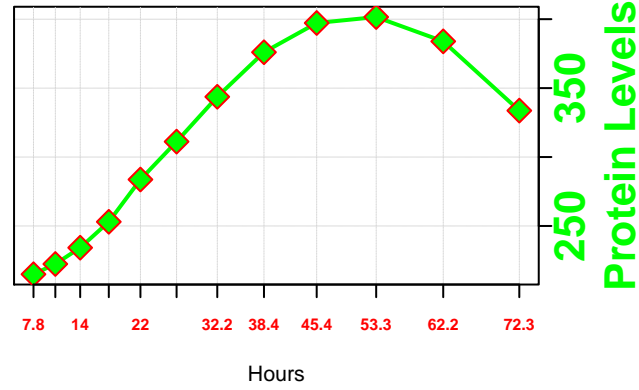


2-ketoglutarate dehydrogenase complex

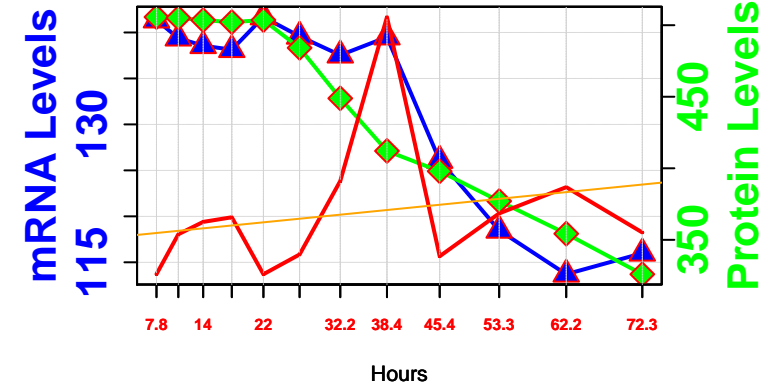
941: KGD2
YDR148C
ORF



1344: KGD1
YIL125W
ORF

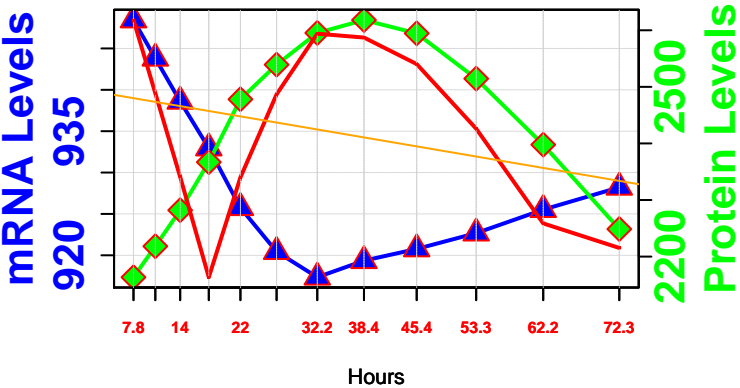


1771: LPD1
YFL018C
ORF

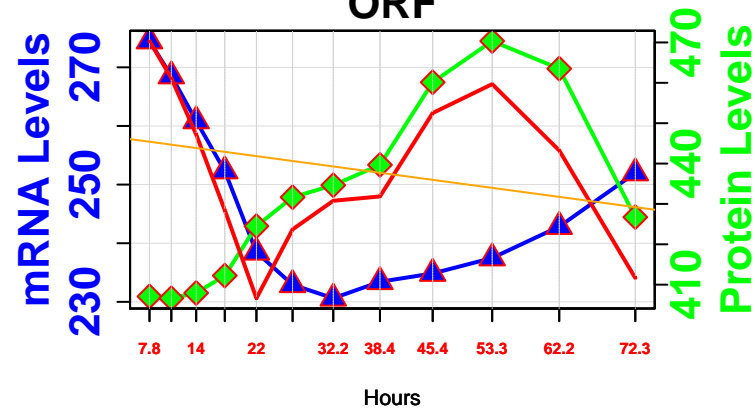


homoserine biosynthesis

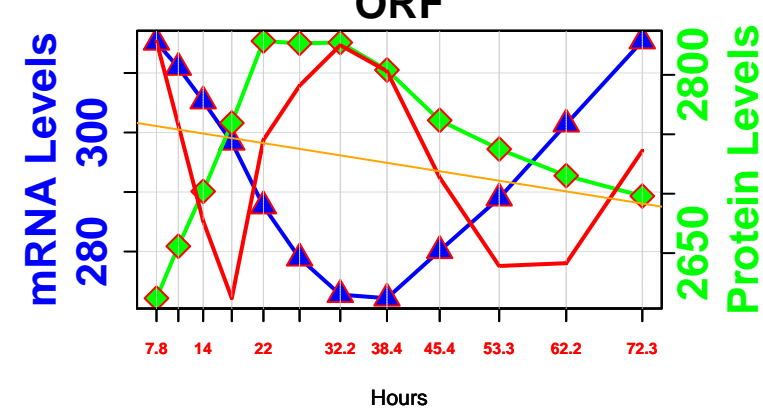
950: HOM2
YDR158W
ORF



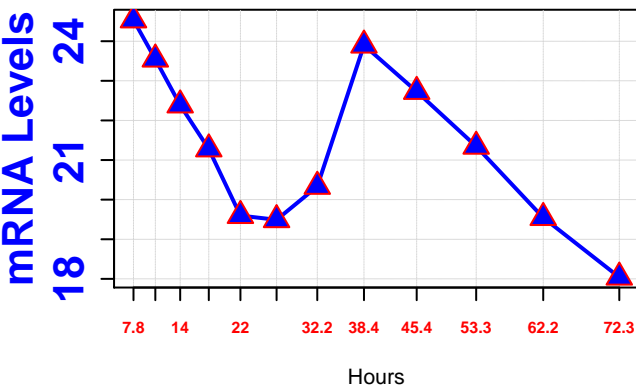
1602: HOM3
YER052C
ORF



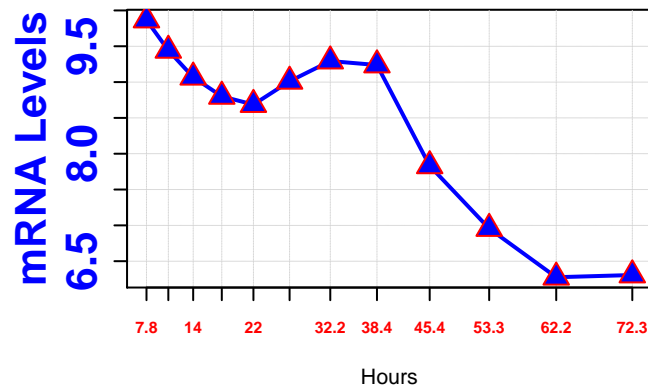
2865: HOM6
YJR139C
ORF



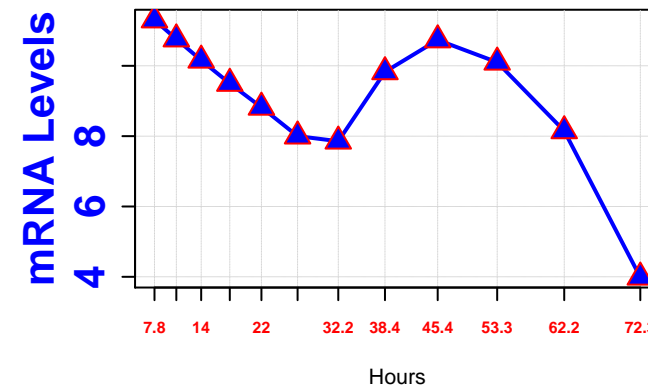
996: MSS4
YDR208W
ORF



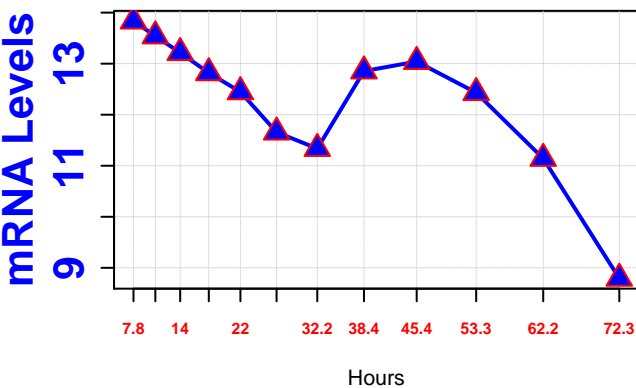
1449: INP51
YIL002C
ORF



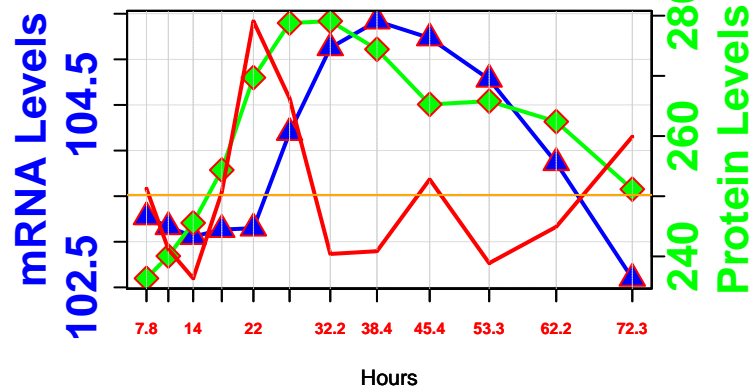
2659: LSB6
YJL100W
ORF



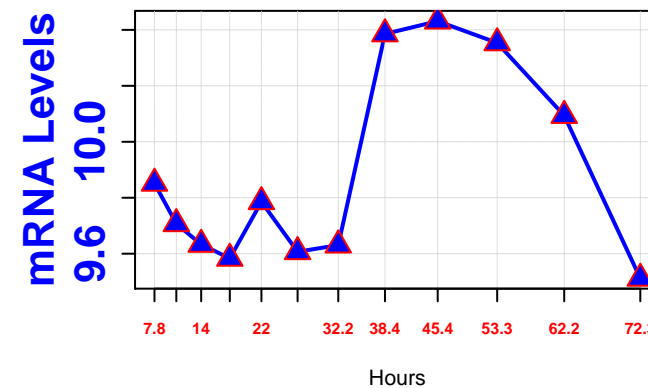
2836: YMR1
YJR110W
ORF



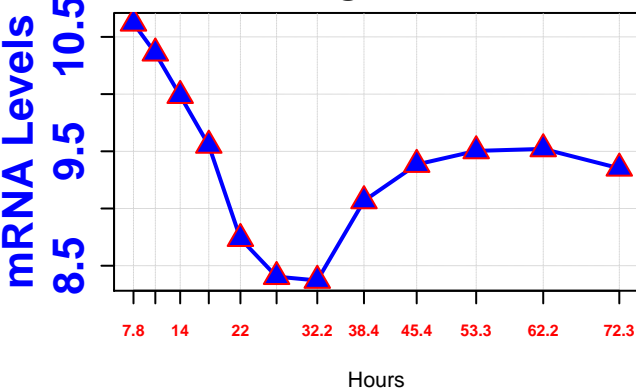
2890: SAC1
YKL212W
ORF



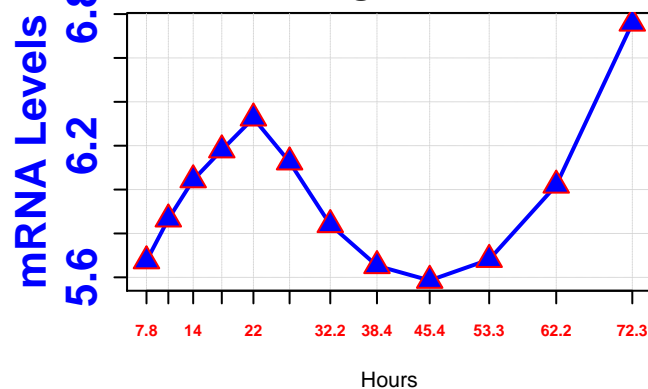
3405: VPS34
YLR240W
ORF



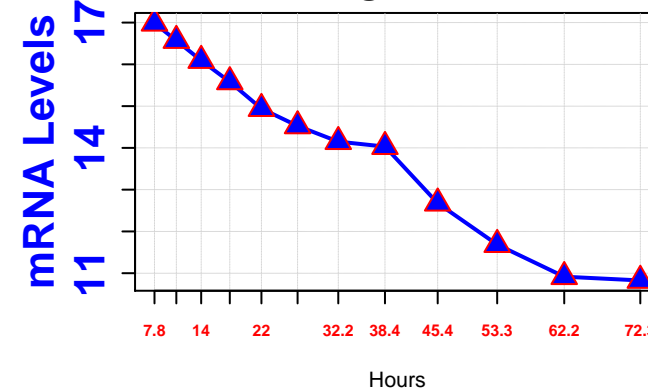
3464: STT4
YLR305C
ORF



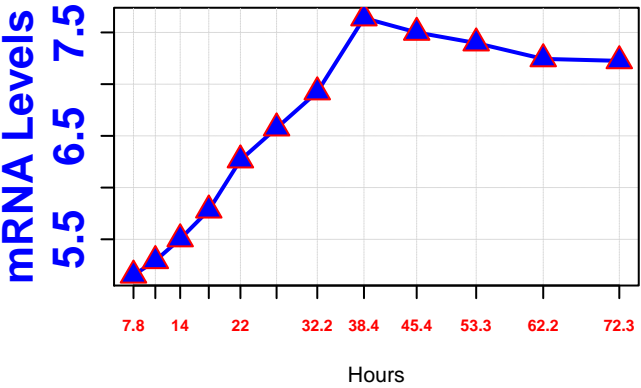
4008: FIG4
YNL325C
ORF



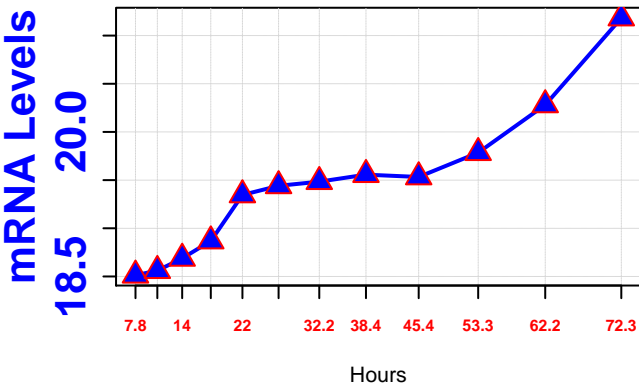
4062: PIK1
YNL267W
ORF



4196: INP52
YNL106C
ORF

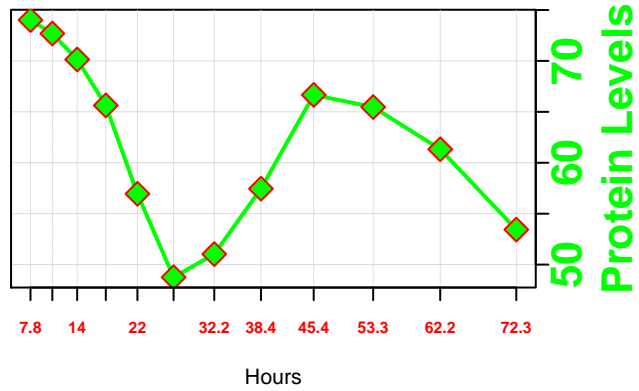


4574: INP53
YOR109W
ORF

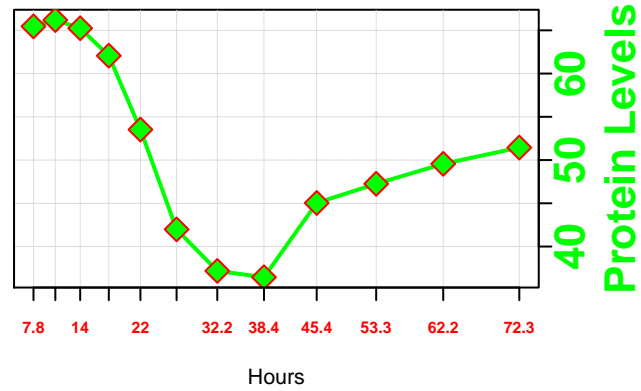


methylglyoxal catabolism

1058: GLO2
YDR272W
ORF

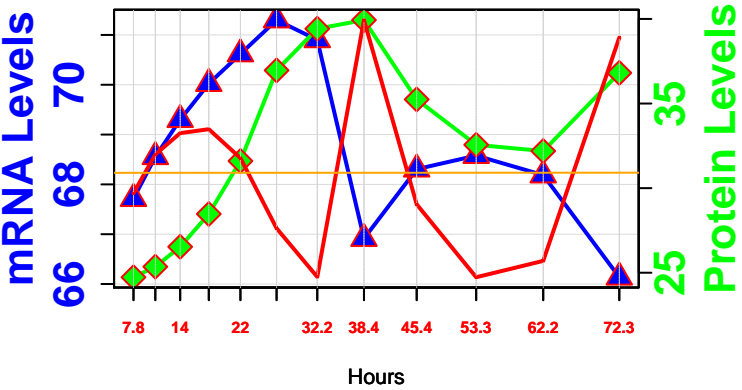


3715: GLO1
YML004C
ORF

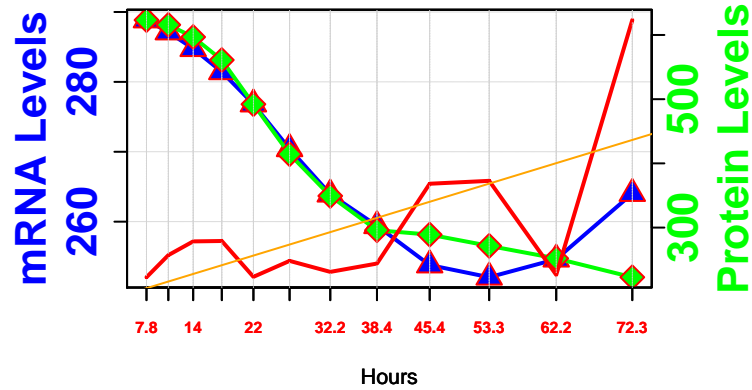


proline biosynthesis

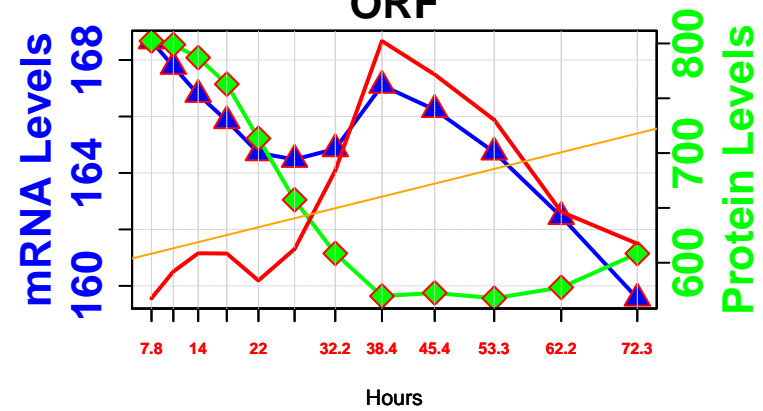
1081: PRO1
YDR300C
ORF



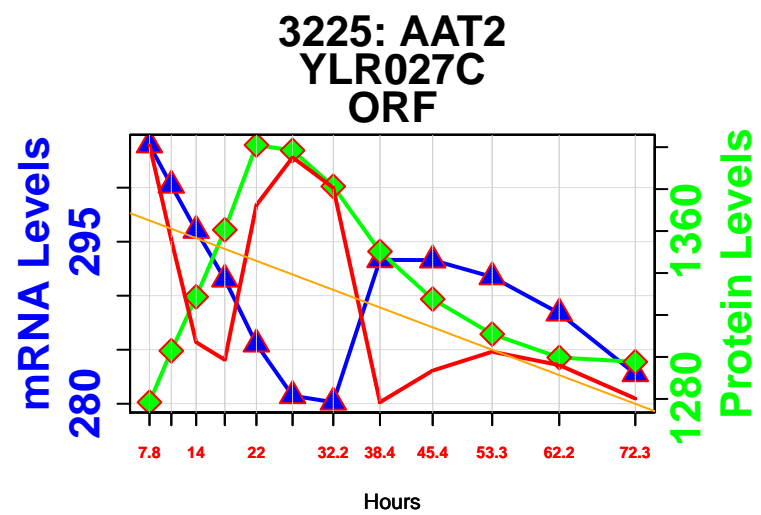
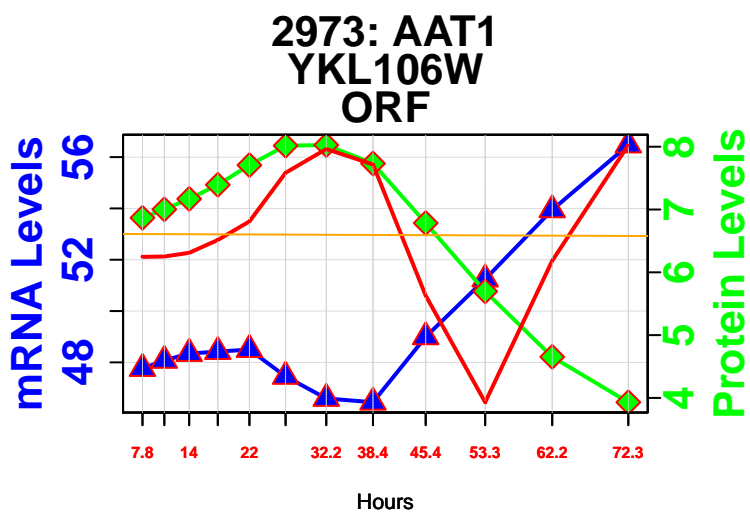
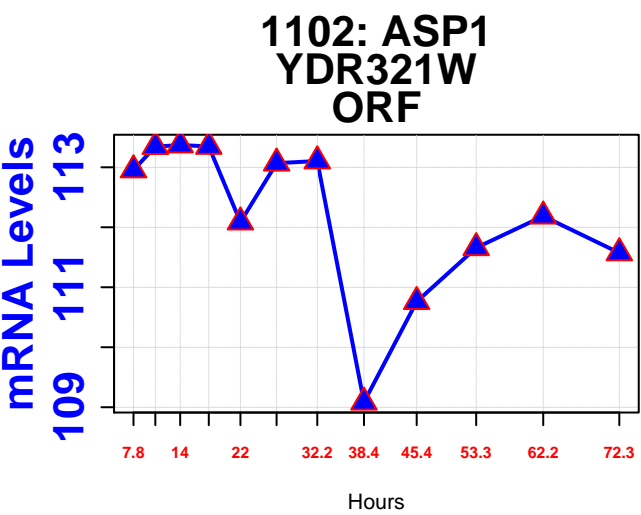
1573: PRO3
YER023W
ORF

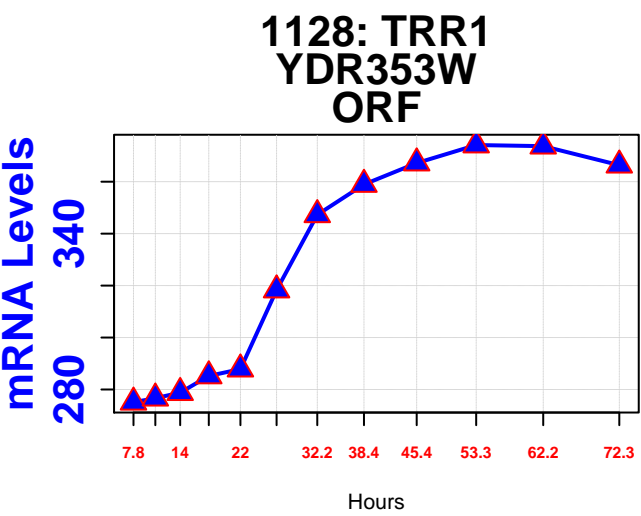


4763: PRO2
YOR323C
ORF

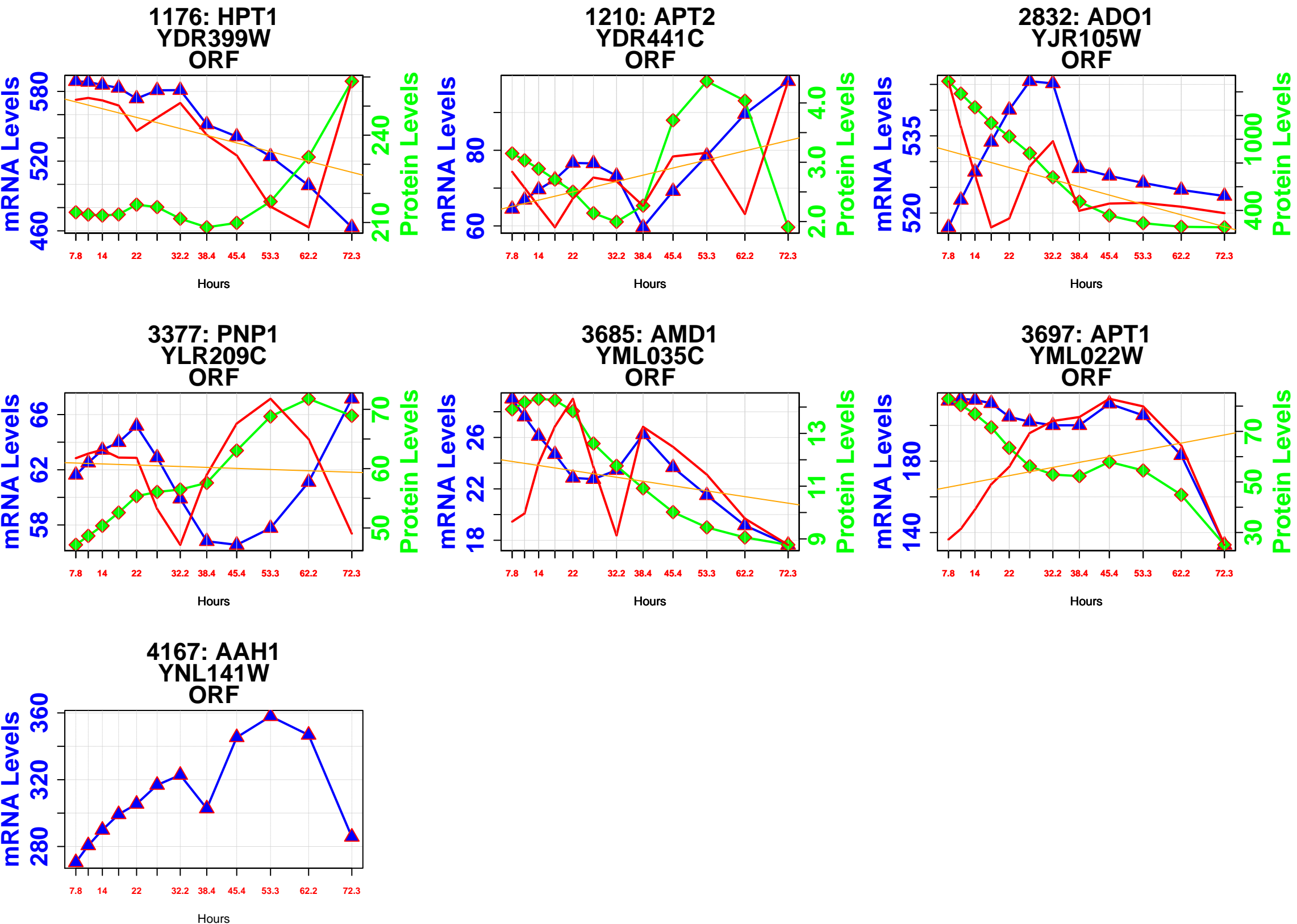


asparagine degradation

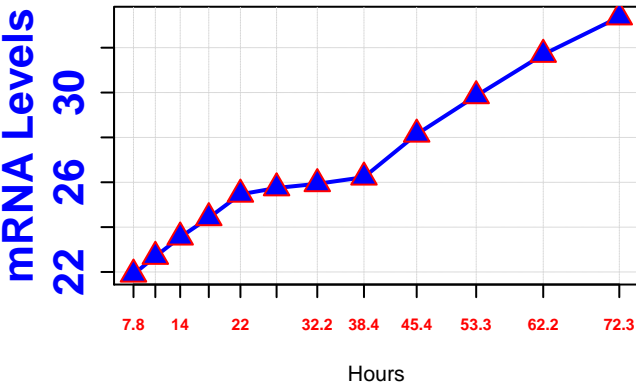




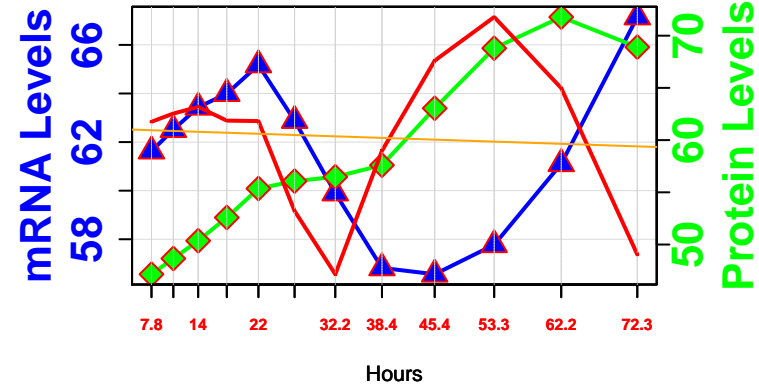
salvage pathways of adenine, hypoxanthine and their nucleosides



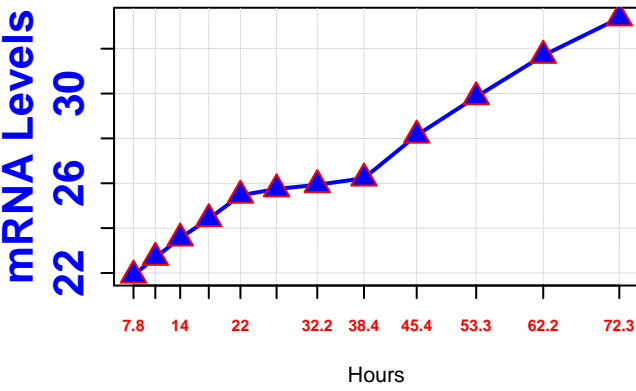
1177: URH1
YDR400W
ORF



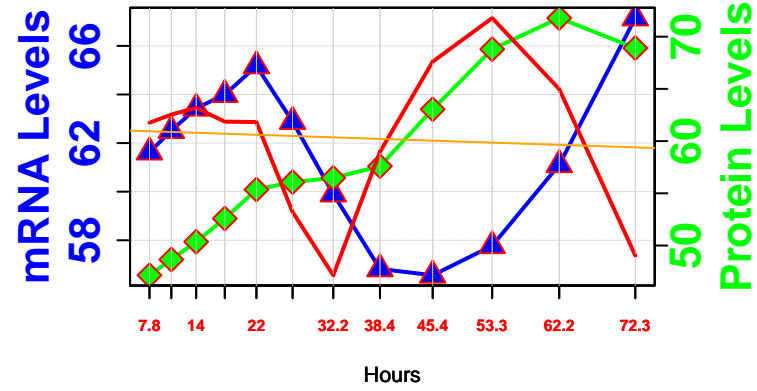
3377: PNP1
YLR209C
ORF



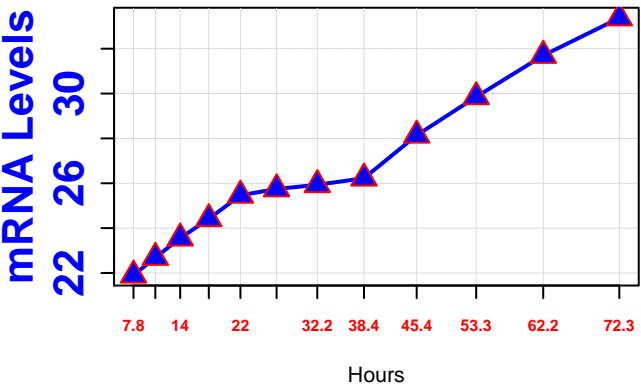
1177: URH1
YDR400W
ORF



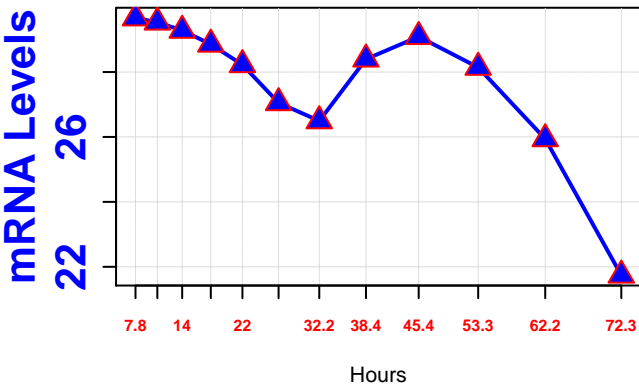
3377: PNP1
YLR209C
ORF



1177: URH1
YDR400W
ORF

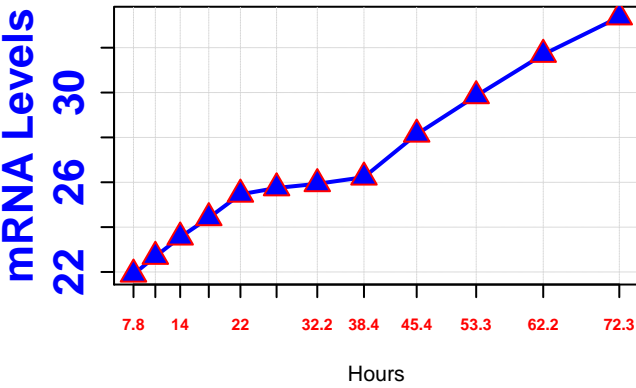


3410: CDD1
YLR245C
ORF

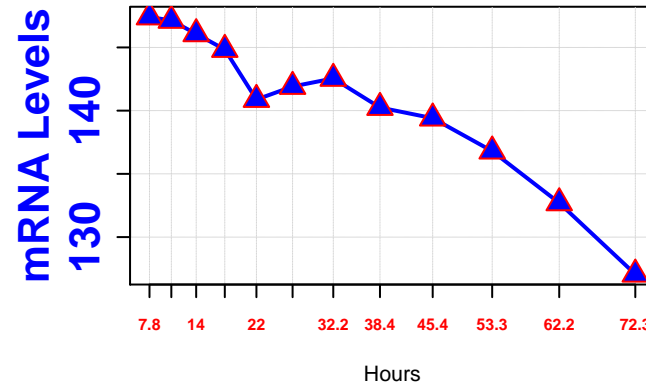


salvage pathways of pyrimidine ribonucleotides

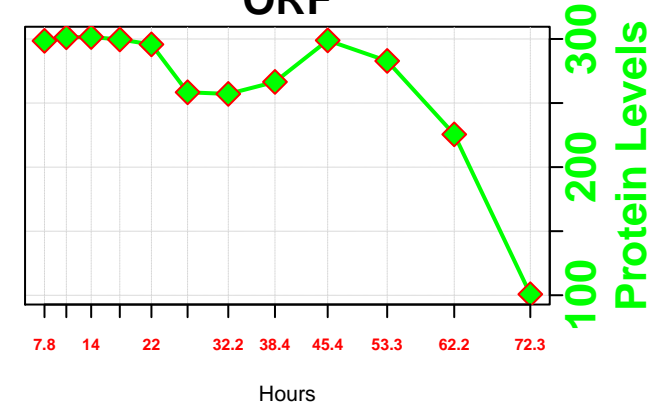
1177: URH1
YDR400W
ORF



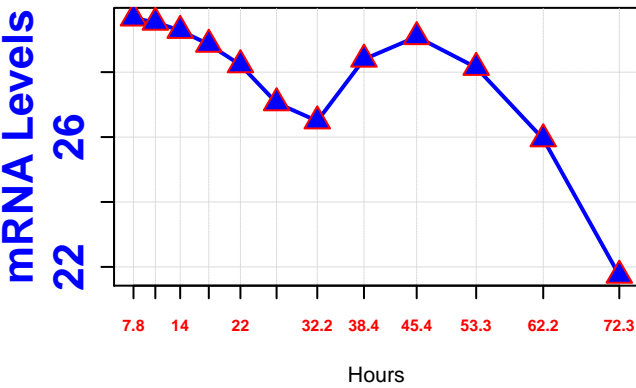
2487: FUR1
YHR128W
ORF



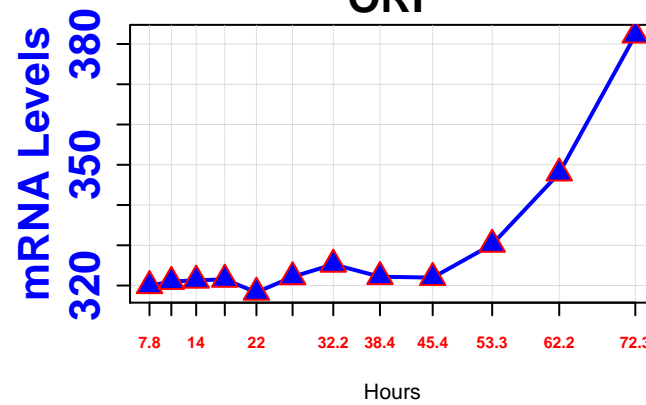
3003: YNK1
YKL067W
ORF



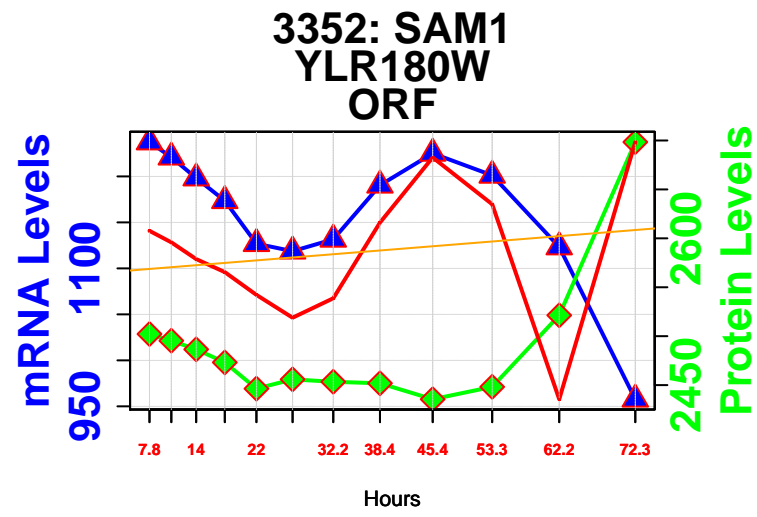
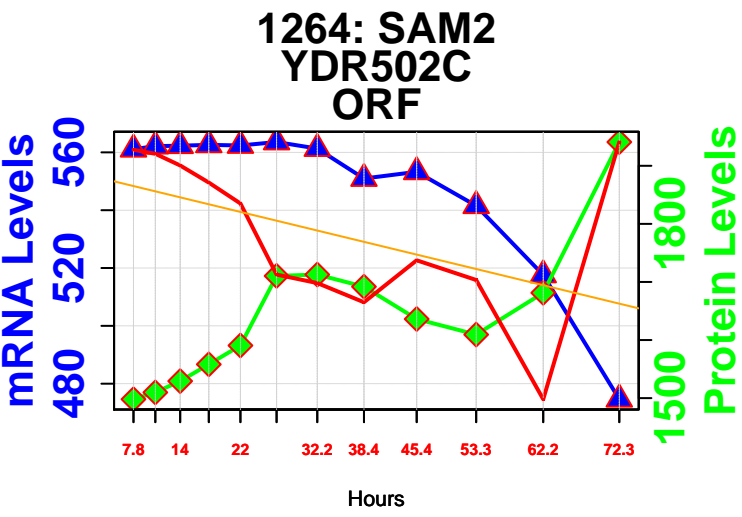
3410: CDD1
YLR245C
ORF



5104: FCY1
YPR062W
ORF

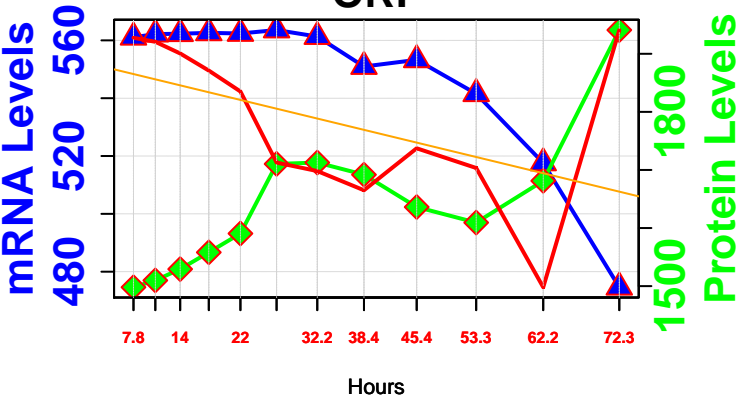


S-adenosylmethionine biosynthesis

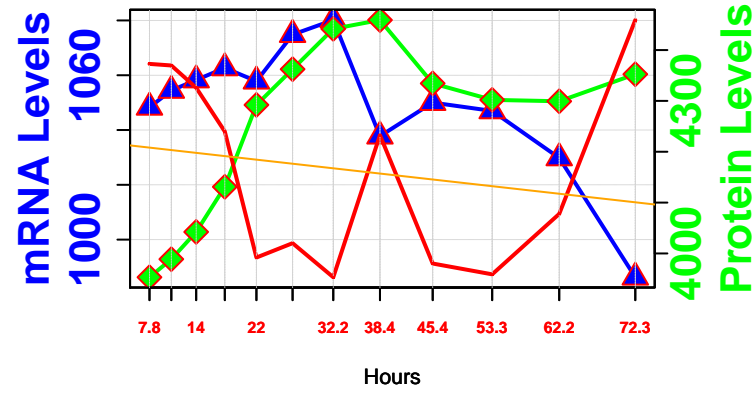


S-adenosylmethionine cycle

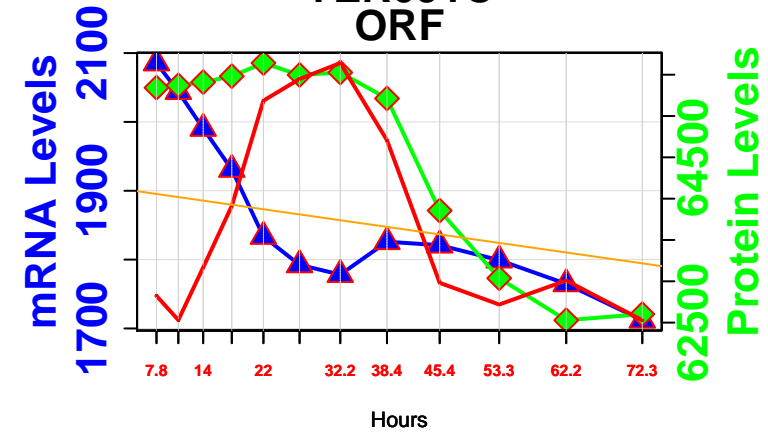
1264: SAM2
YDR502C
ORF



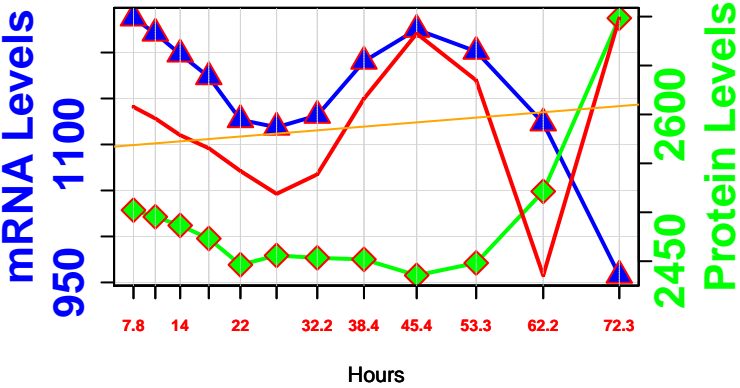
1590: SAH1
YER043C
ORF



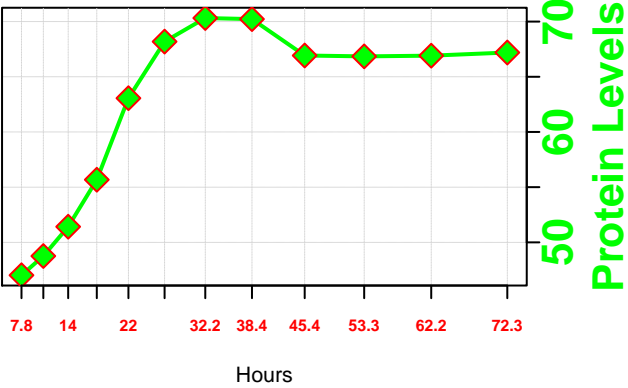
1646: MET6
YER091C
ORF



3352: SAM1
YLR180W
ORF

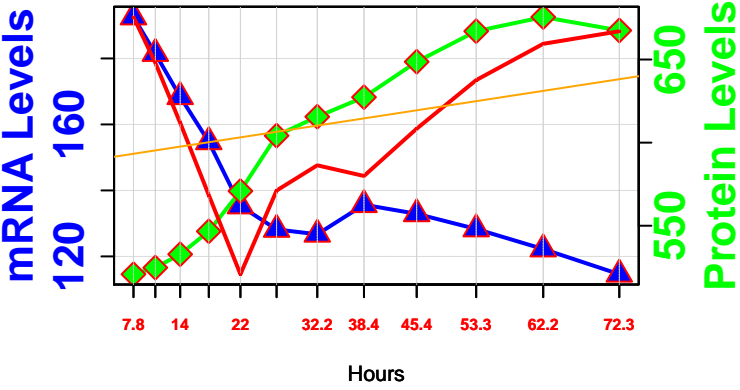


1314: GUT2
YIL155C
ORF

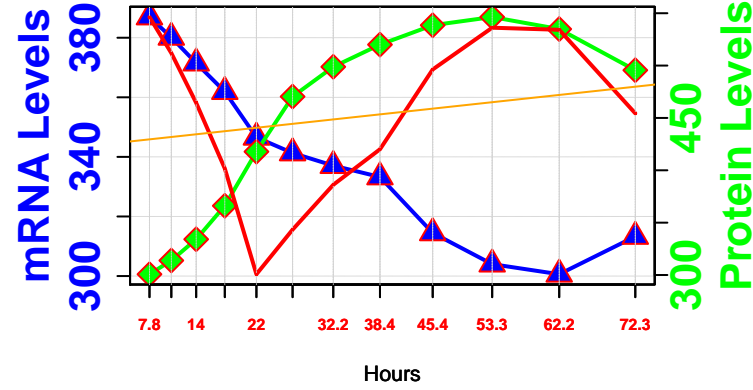


serine biosynthesis from 3-phosphoglycerate

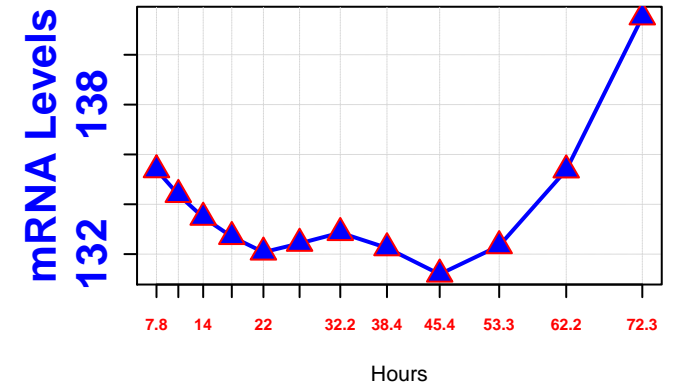
1383: SER33
YIL074C
ORF



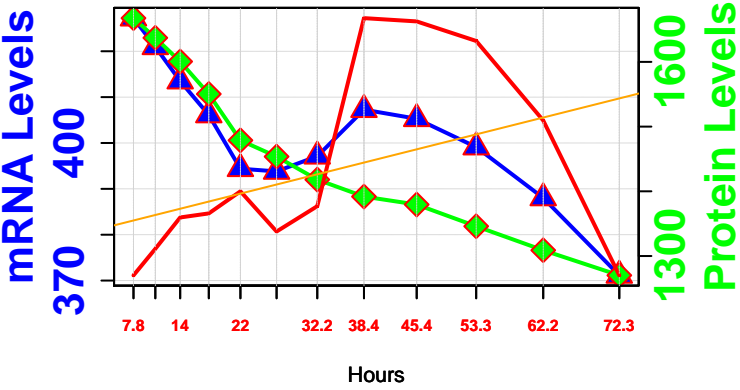
1632: SER3
YER081W
ORF

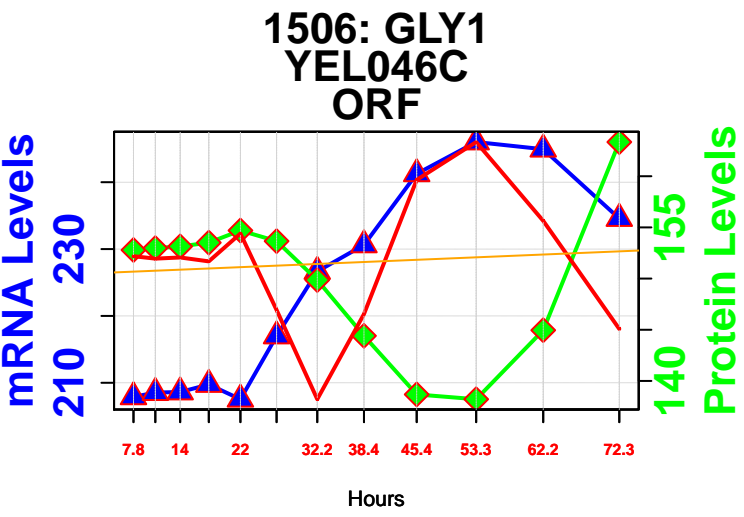


2251: SER2
YGR208W
ORF



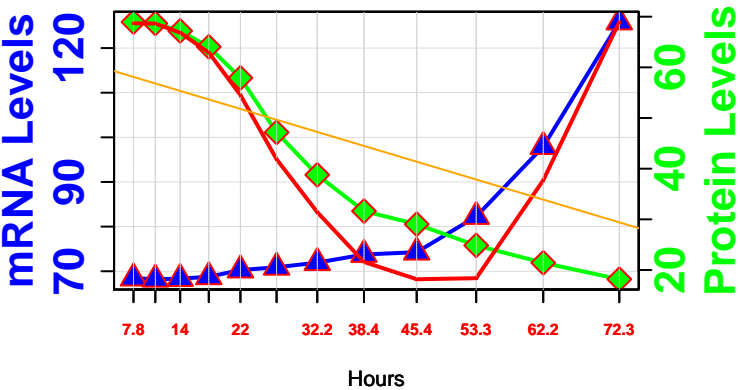
4639: SER1
YOR184W
ORF



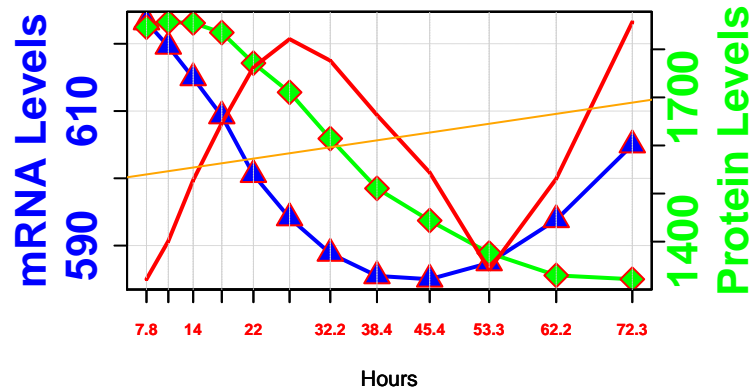


methionine salvage pathway

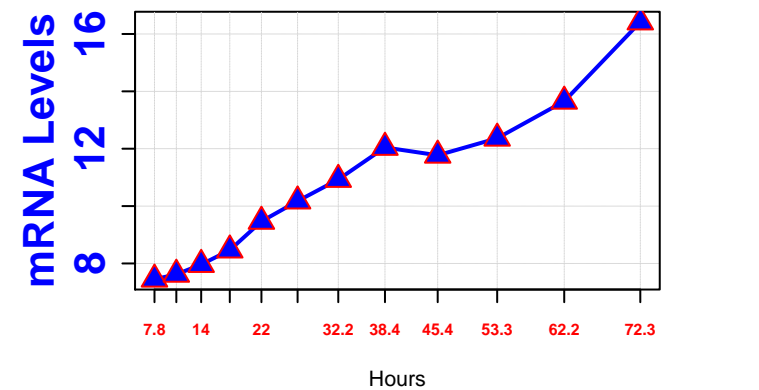
1511: UTR4
YEL038W
ORF



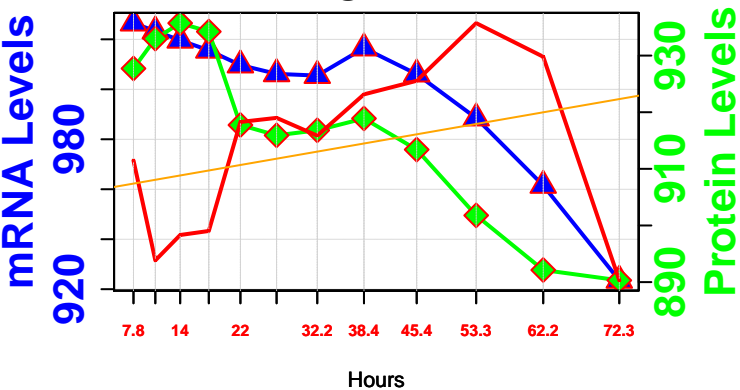
1892: ARO8
YGL202W
ORF



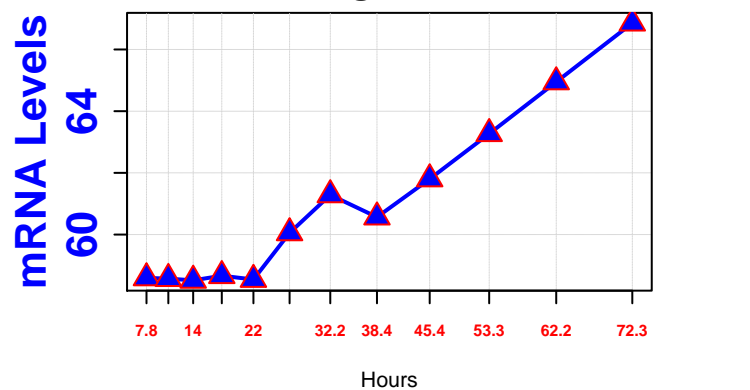
2498: ARO9
YHR137W
ORF



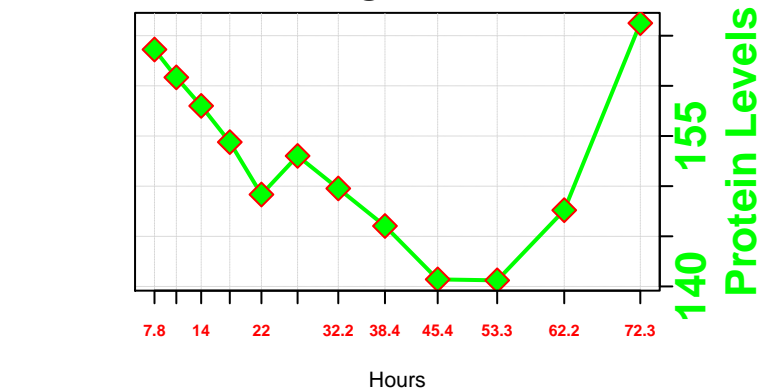
2556: BAT1
YHR208W
ORF



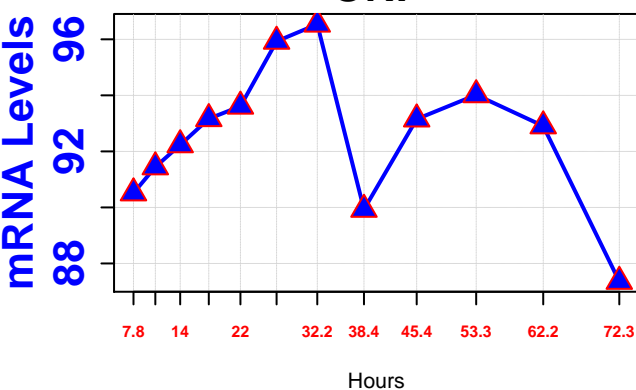
2763: MDE1
YJR024C
ORF



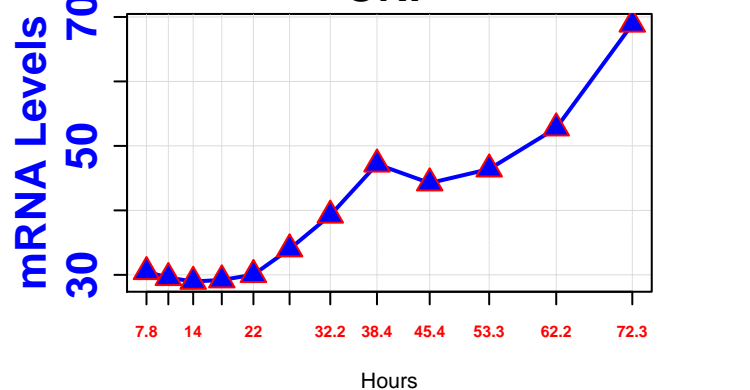
2875: BAT2
YJR148W
ORF



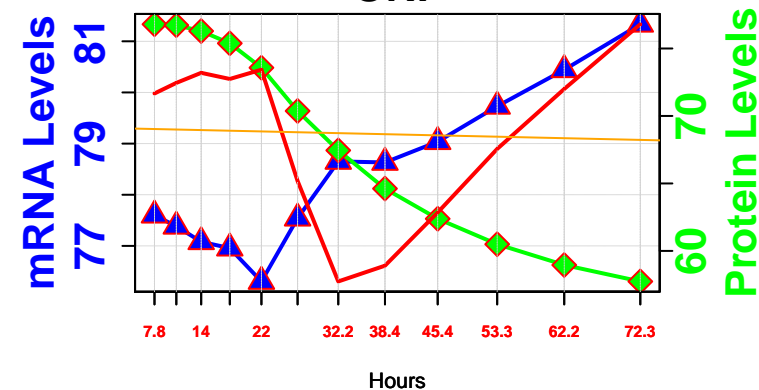
3216: MEU1
YLR017W
ORF



3726: ADI1
YMR009W
ORF

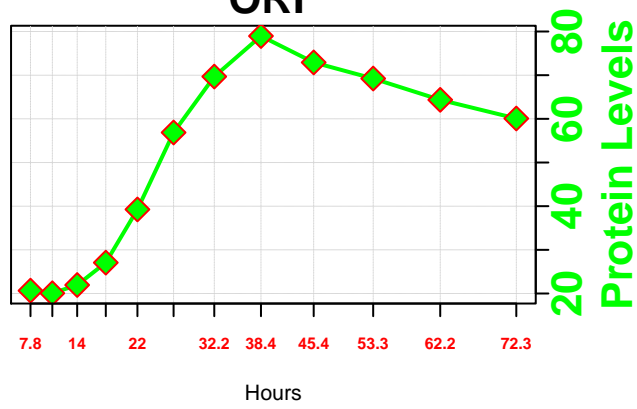


5150: MRI1
YPR118W
ORF

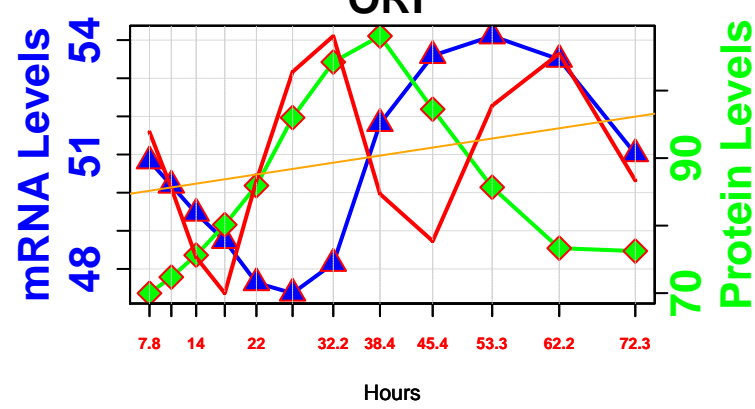


glycogen biosynthesis

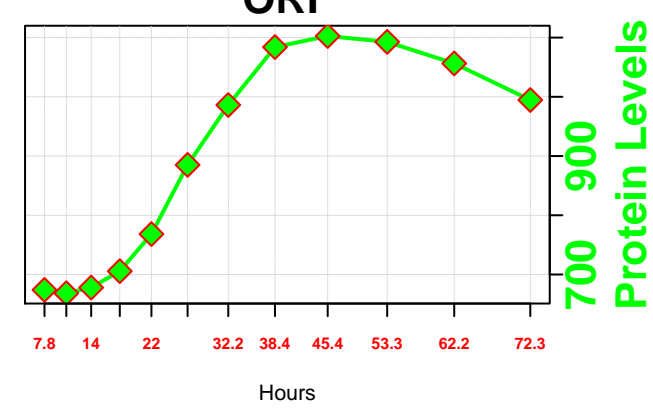
1540: GLC3
YEL011W
ORF



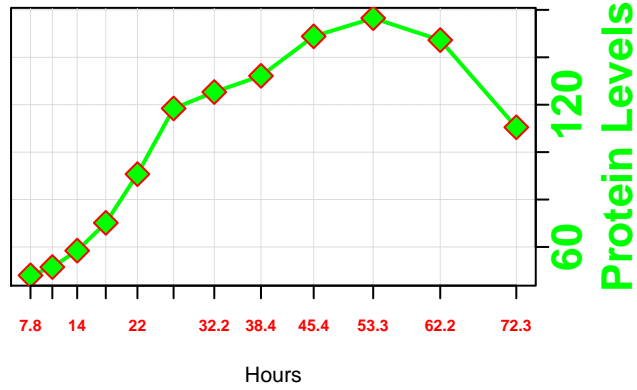
2957: PGM1
YKL127W
ORF



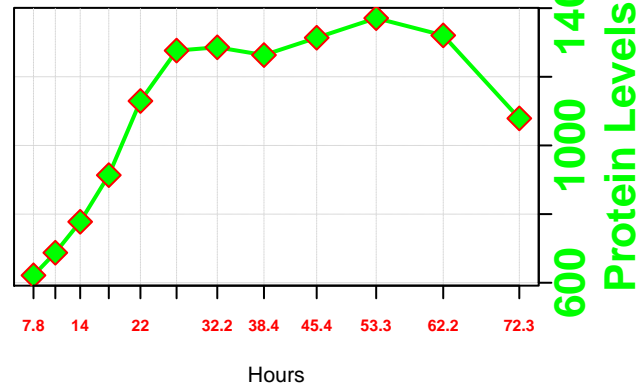
3031: UGP1
YKL035W
ORF



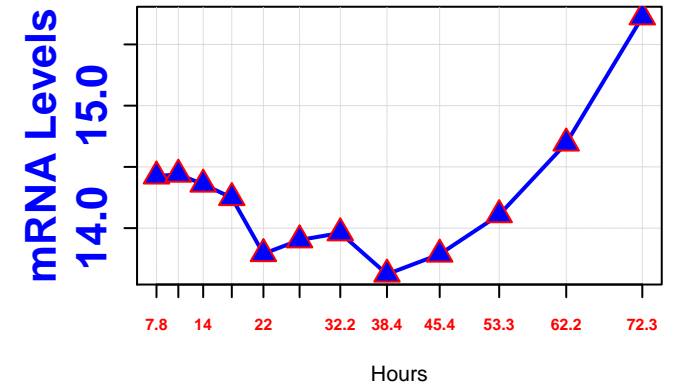
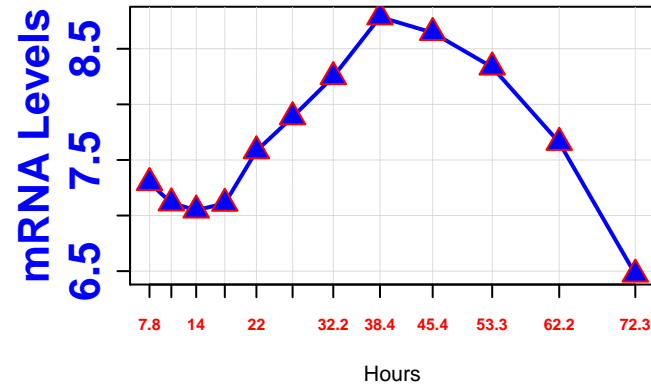
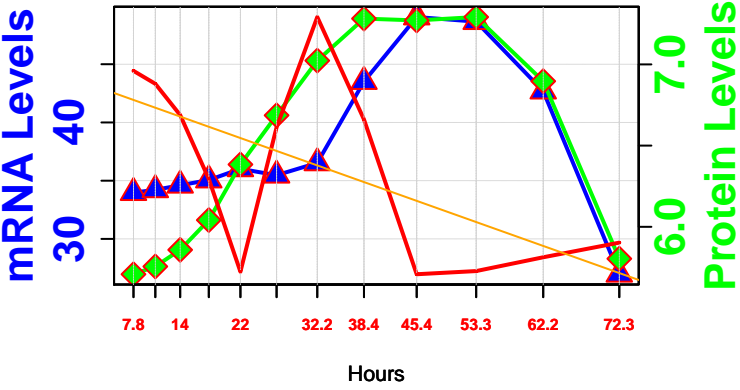
3421: GSY2
YLR258W
ORF



3806: PGM2
YMR105C
ORF

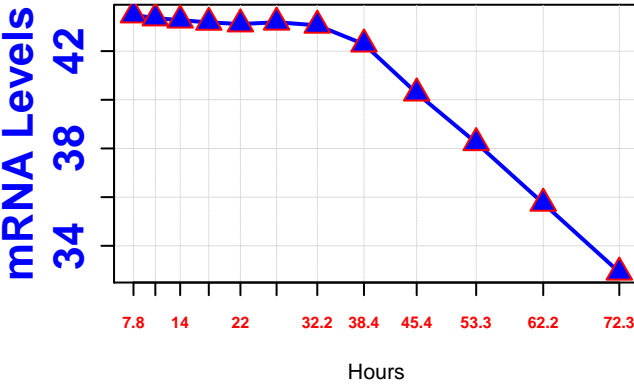


arginine
phosphatidylserine
oxidation (anaerobic)

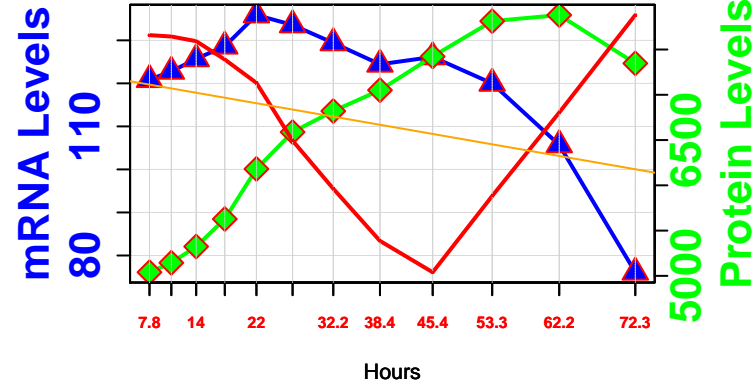


fatty acid biosynthesis, initial steps

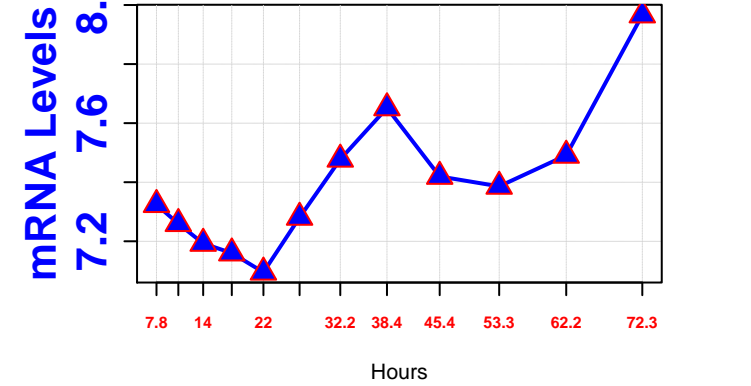
1612: CEM1
YER061C
ORF



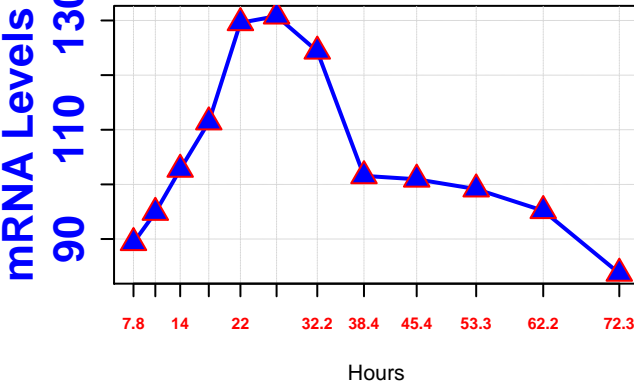
2912: FAS1
YKL182W
ORF



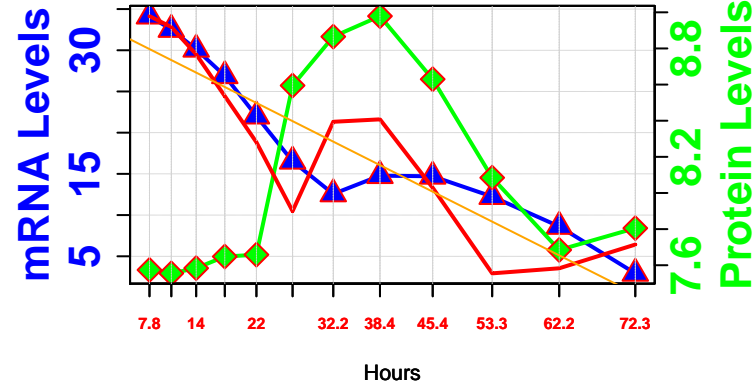
3895: HFA1
YMR207C
ORF



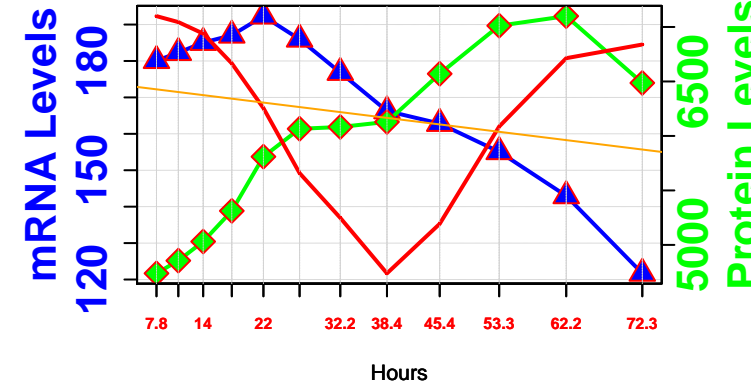
4298: ACC1
YNR016C
ORF



4673: MCT1
YOR221C
ORF

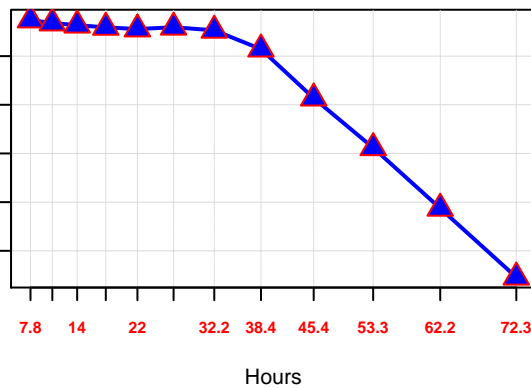


4867: FAS2
YPL231W
ORF



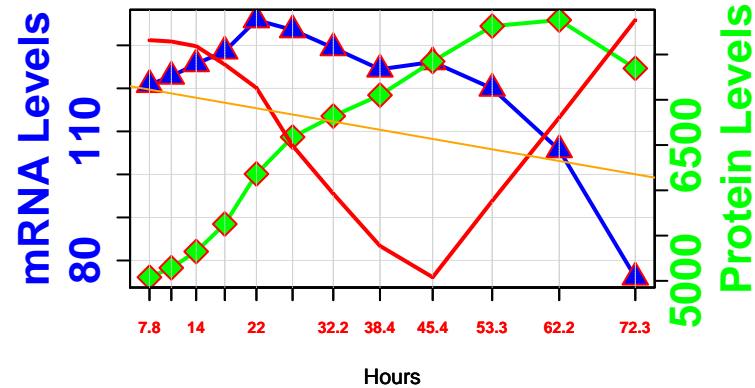
mRNA Levels

1612: CEM1
YER061C
ORF

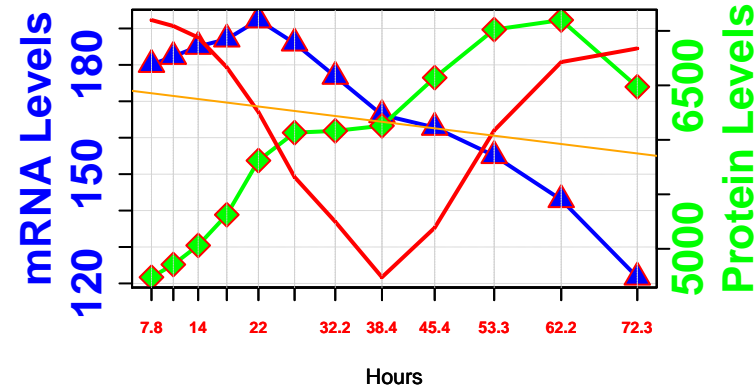


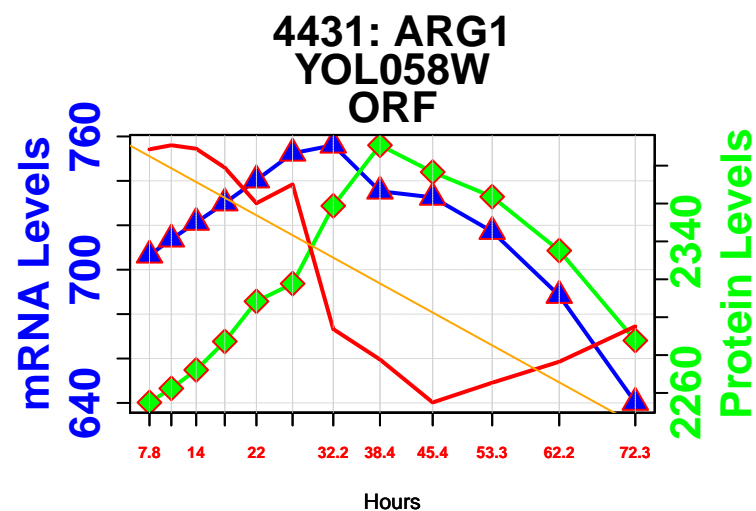
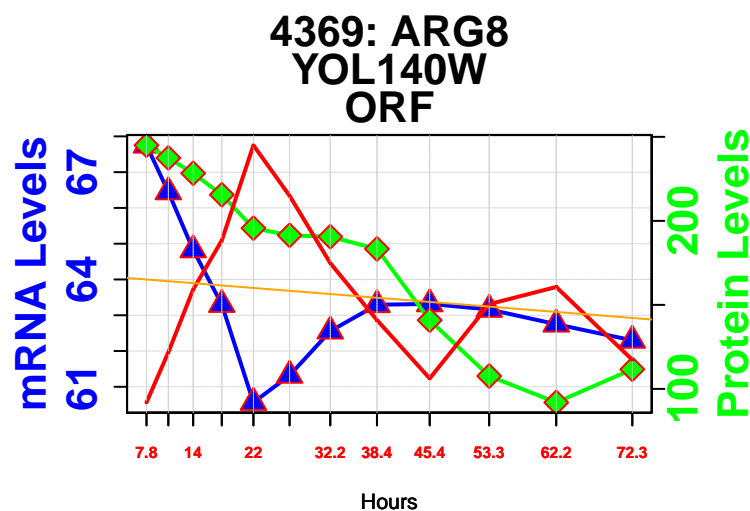
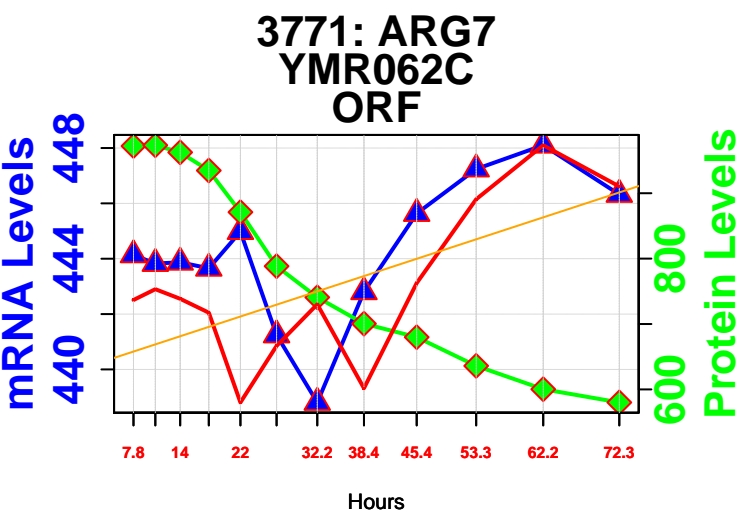
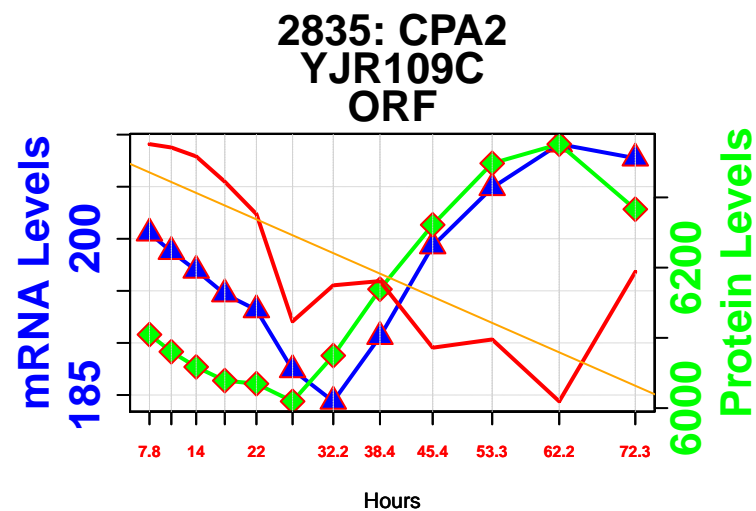
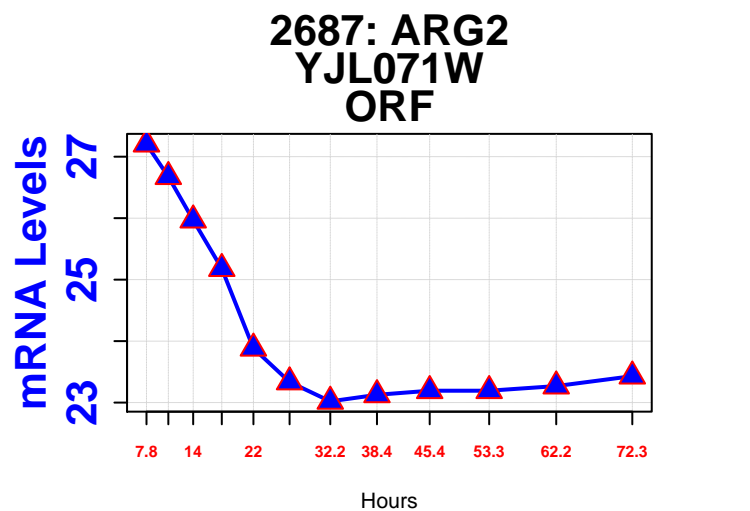
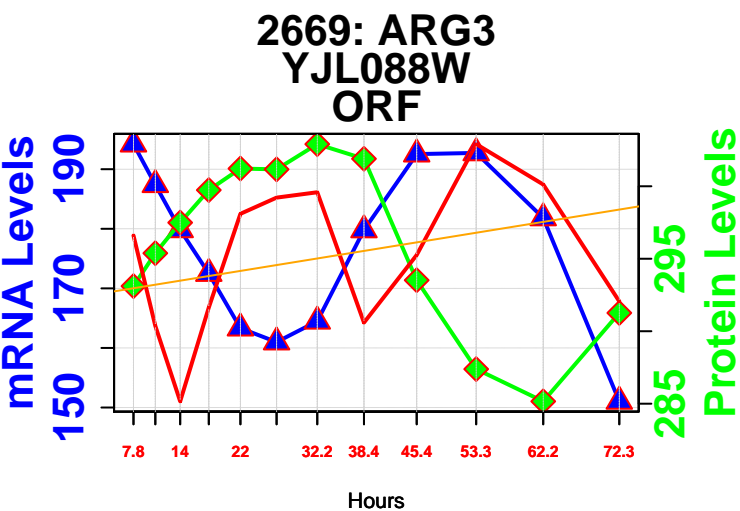
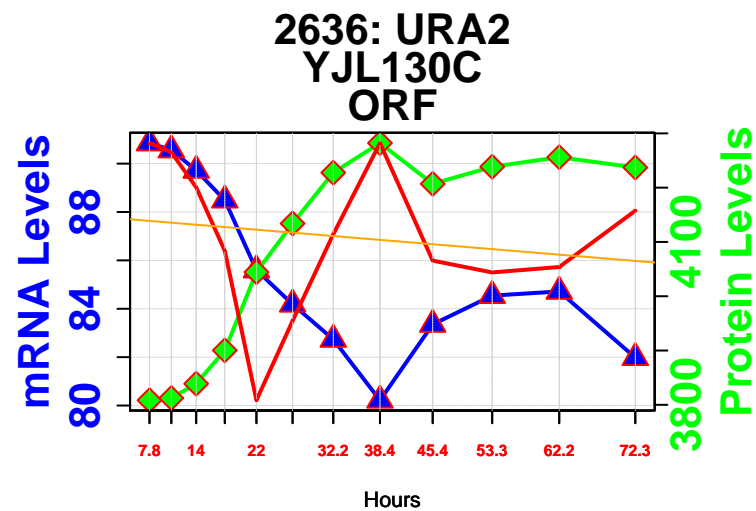
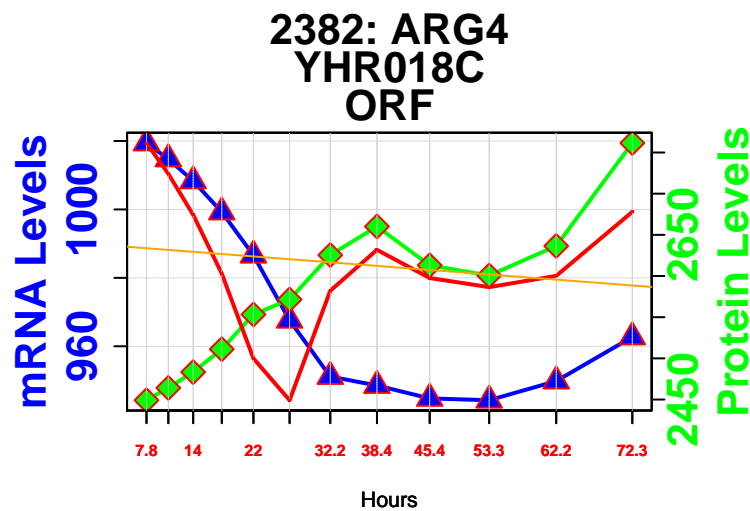
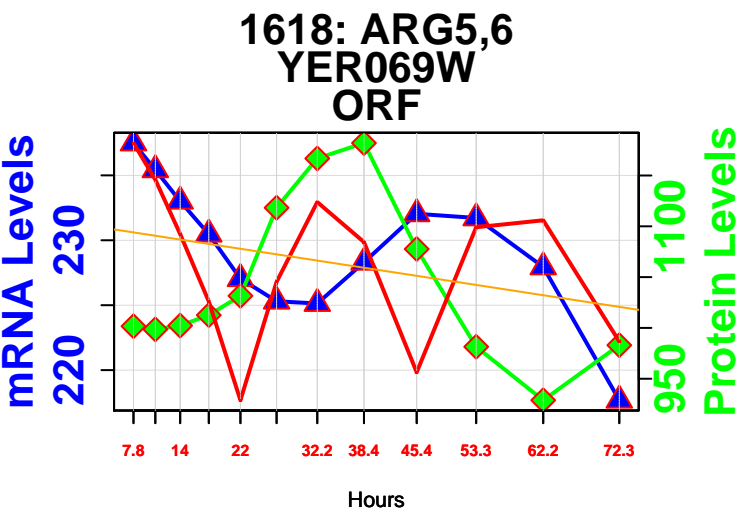
fatty acid elongation

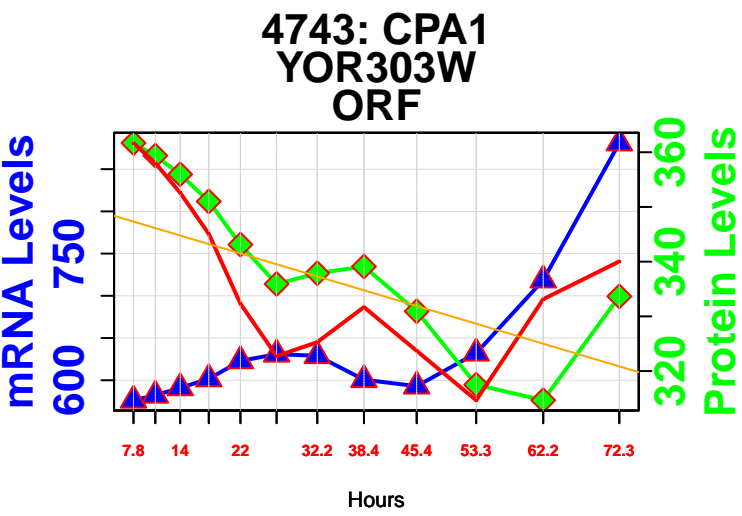
2912: FAS1
YKL182W
ORF



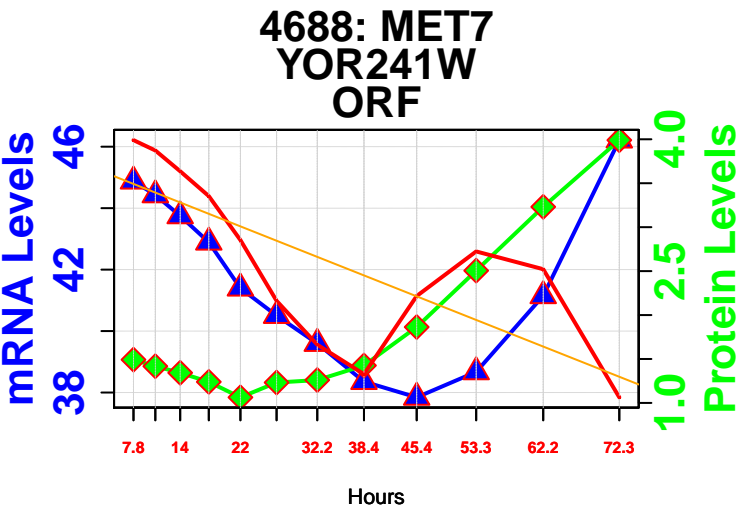
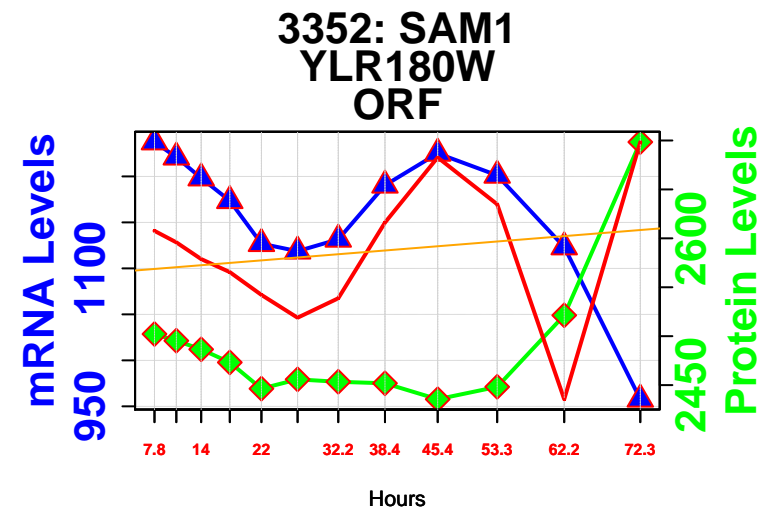
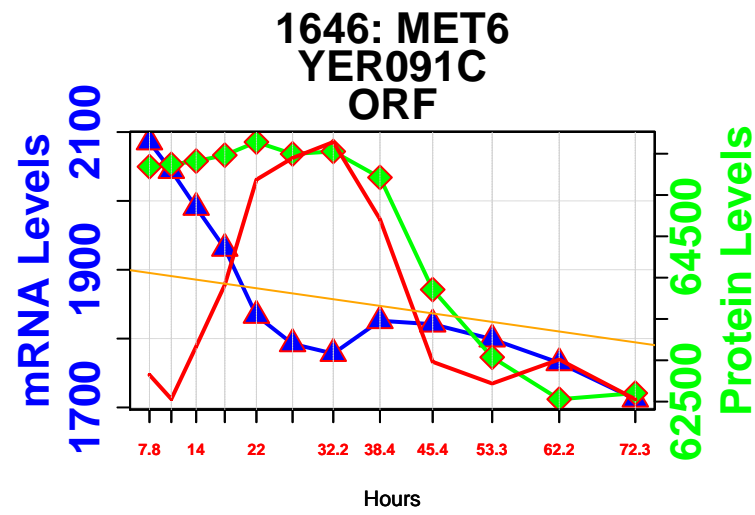
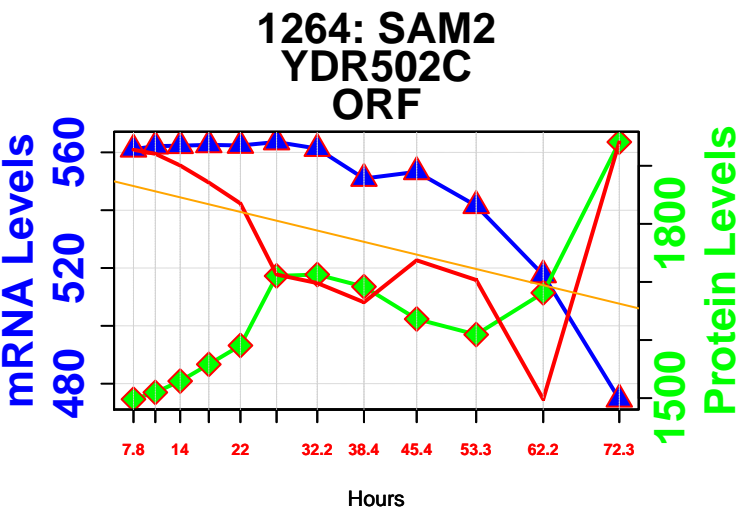
4867: FAS2
YPL231W
ORF





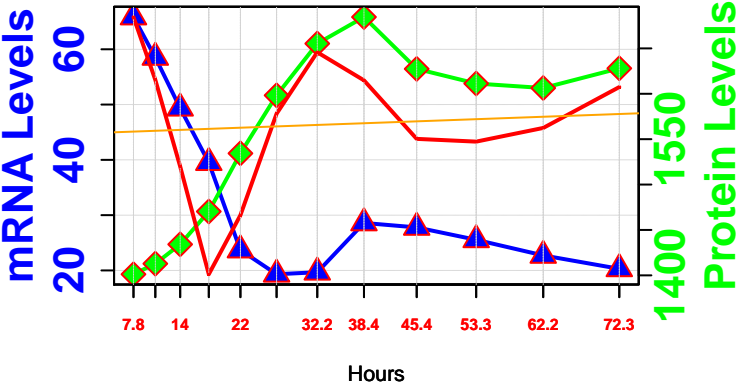


methionine biosynthesis

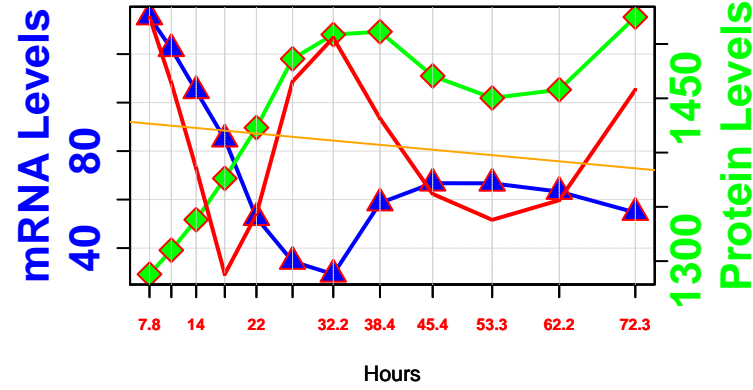


sulfate assimilation pathway

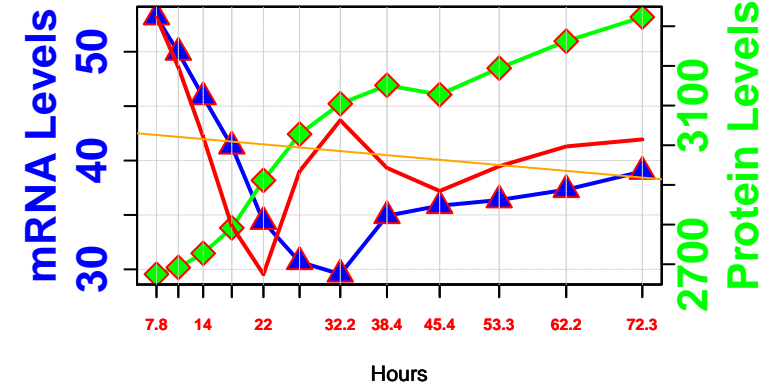
1816: MET10
YFR030W
ORF



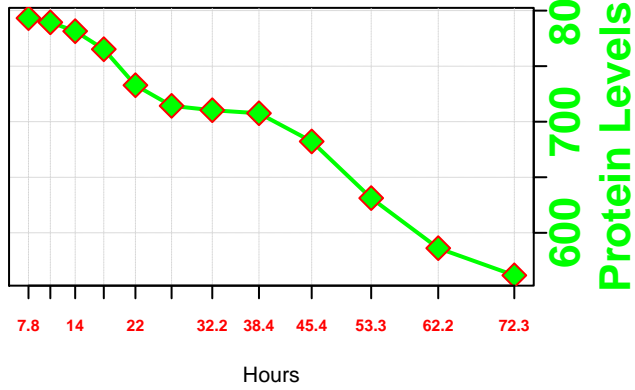
2750: MET3
YJR010W
ORF



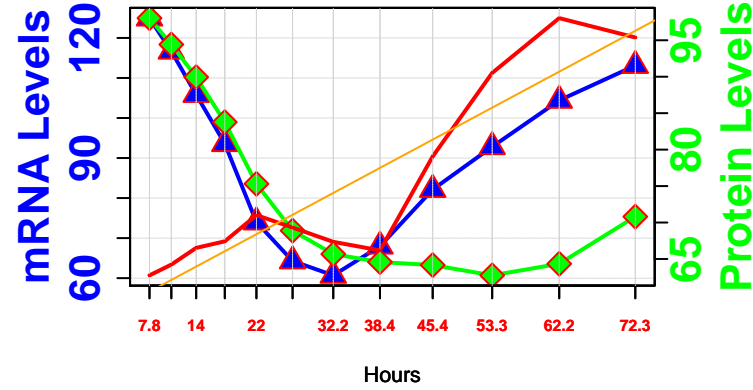
2863: MET5
YJR137C
ORF



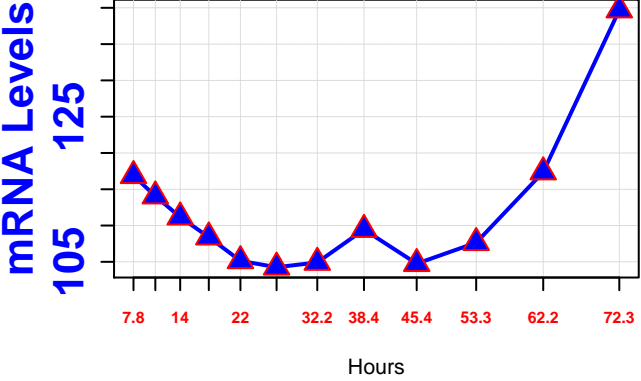
3065: MET14
YKL001C
ORF



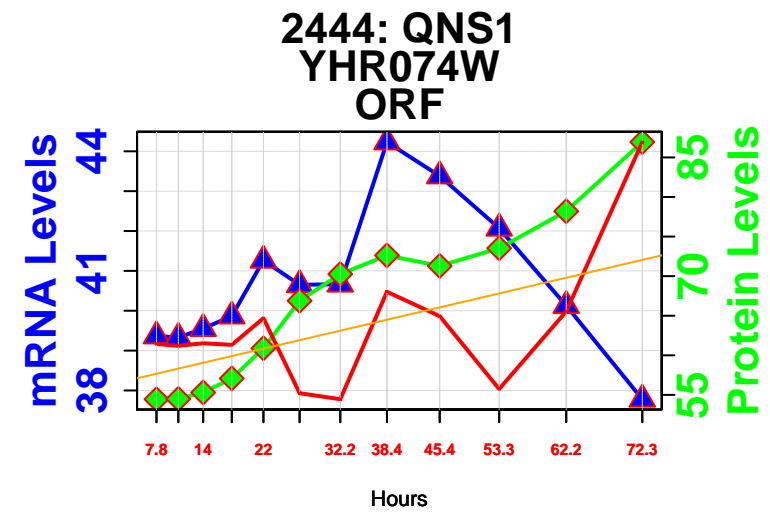
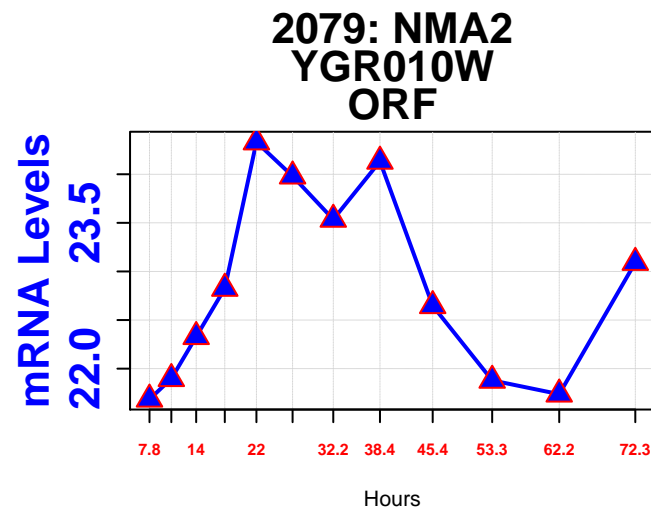
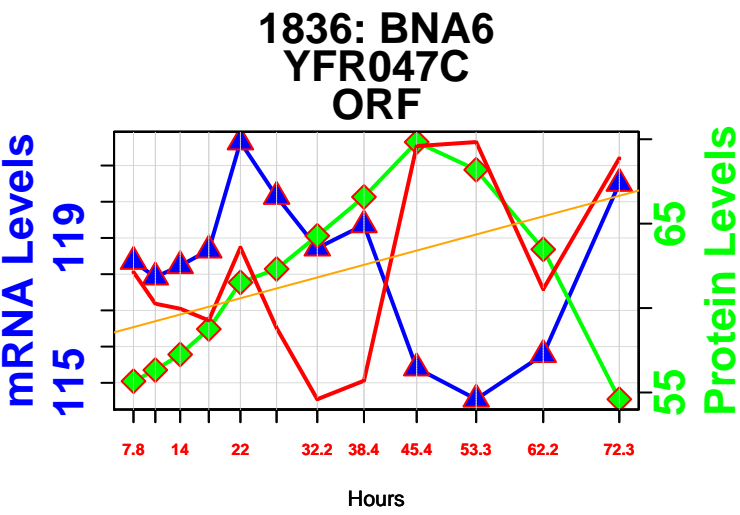
5197: MET16
YPR167C
ORF



1834: DUG1
YFR044C
ORF

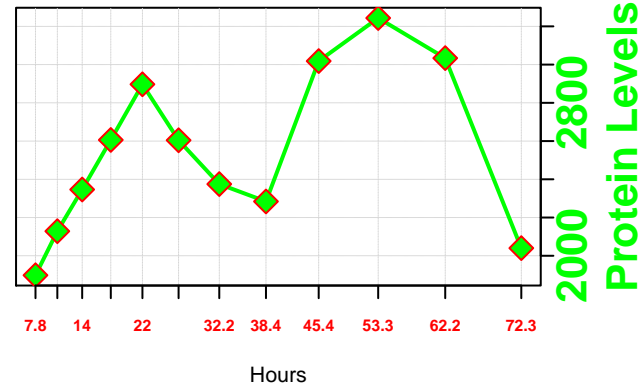


de novo NAD biosynthesis

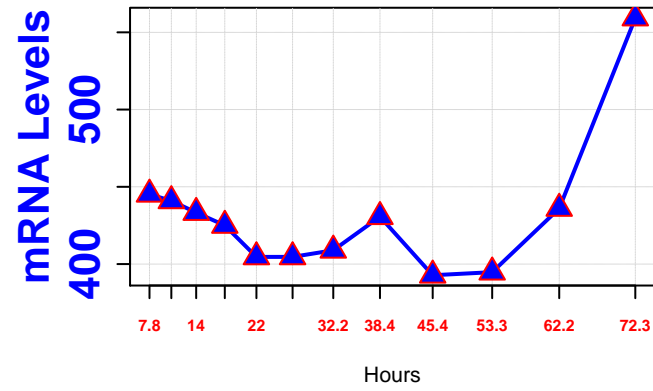


fructose degradation

1841: HXK1
YFR053C
ORF

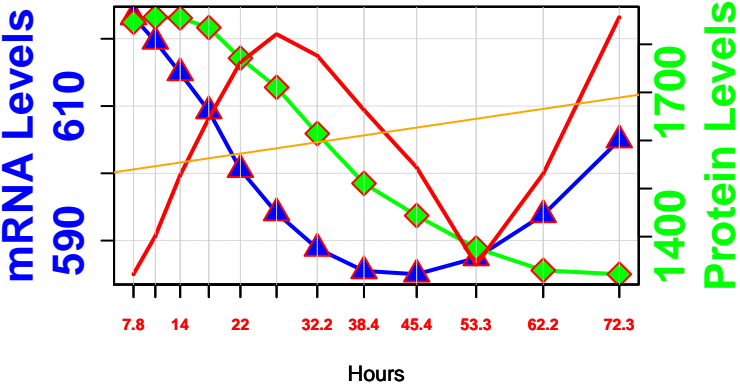


1850: HXK2
YGL253W
ORF

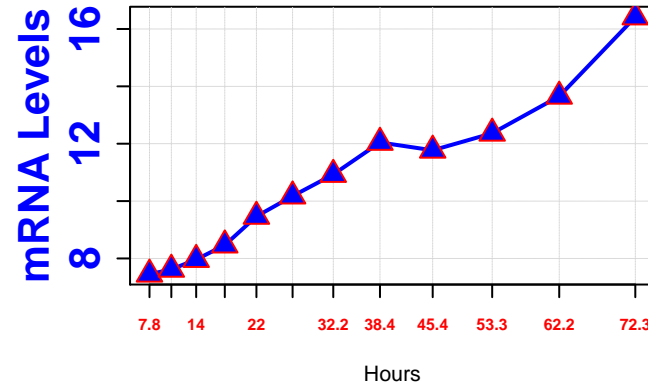


phenylalanine biosynthesis

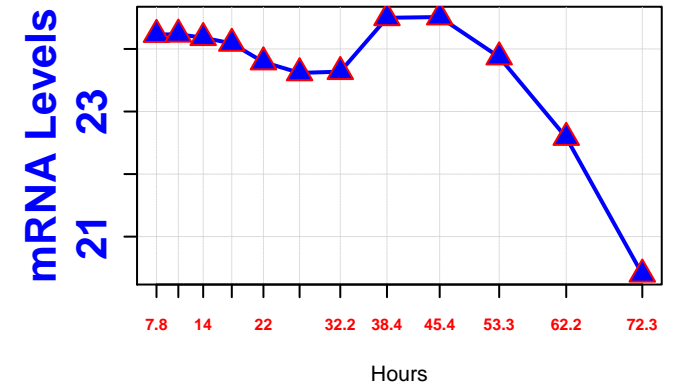
1892: ARO8
YGL202W
ORF



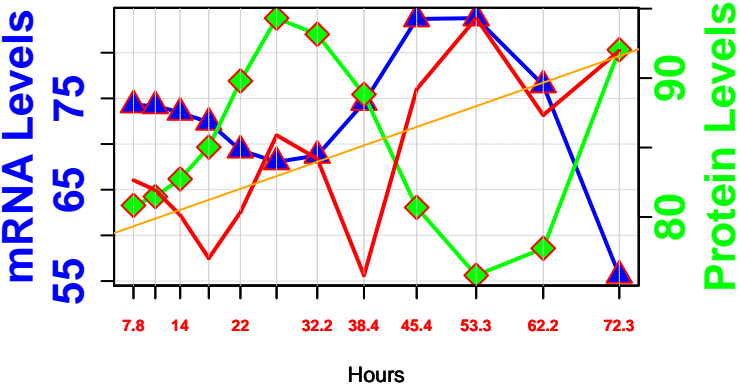
2498: ARO9
YHR137W
ORF



4014: PHA2
YNL316C
ORF

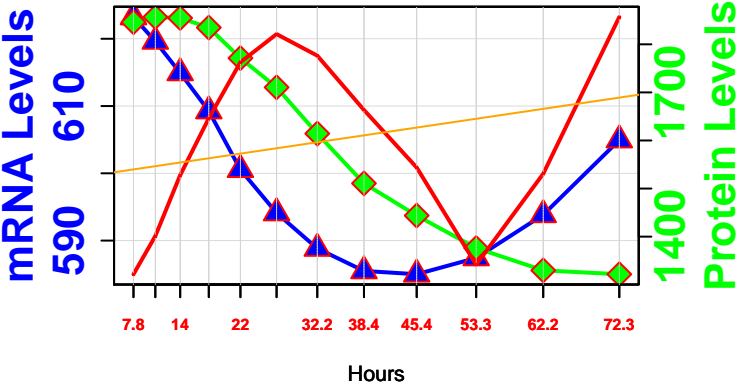


5103: ARO7
YPR060C
ORF

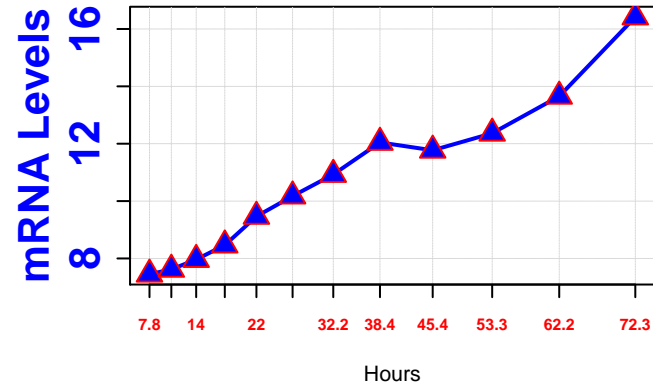


tyrosine degradation

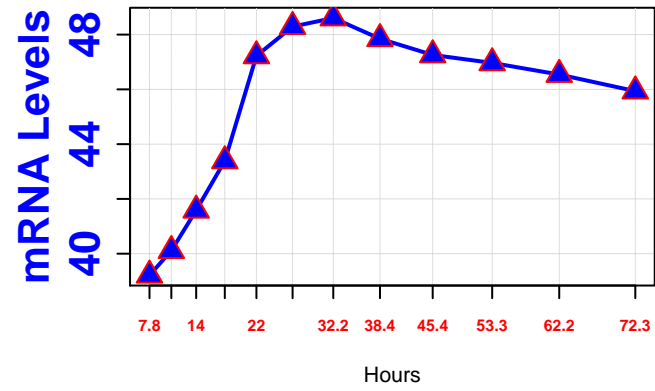
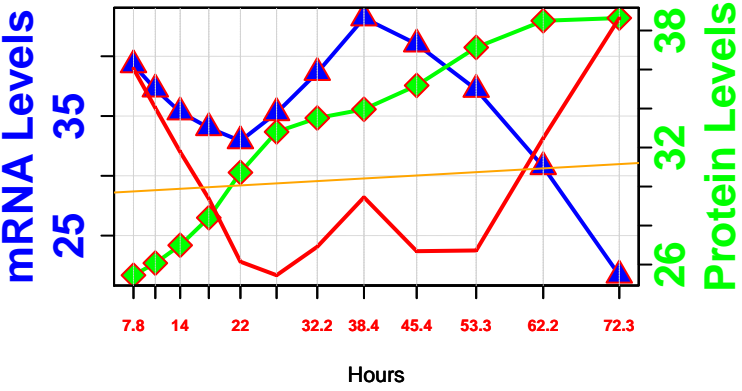
1892: ARO8
YGL202W
ORF

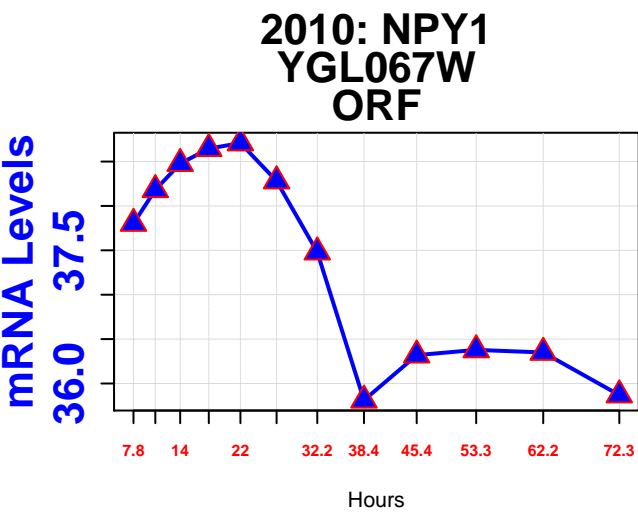


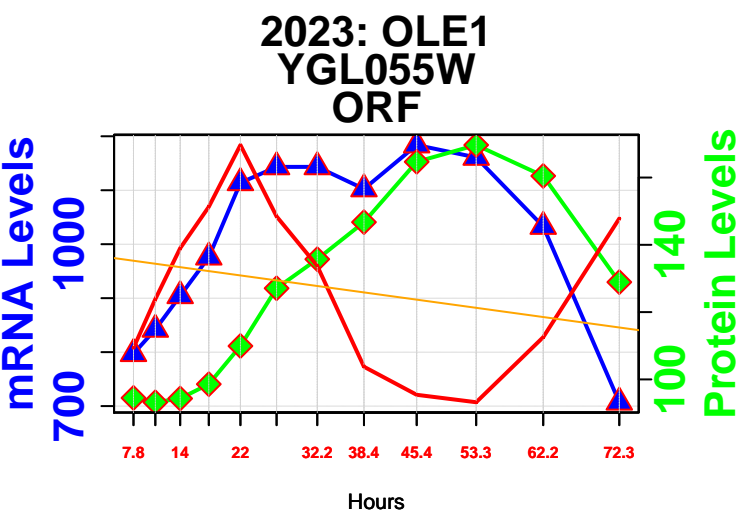
2498: ARO9
YHR137W
ORF

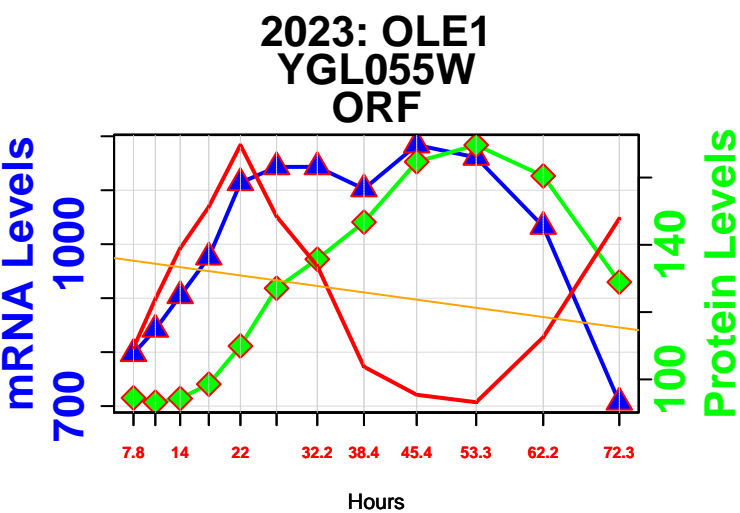


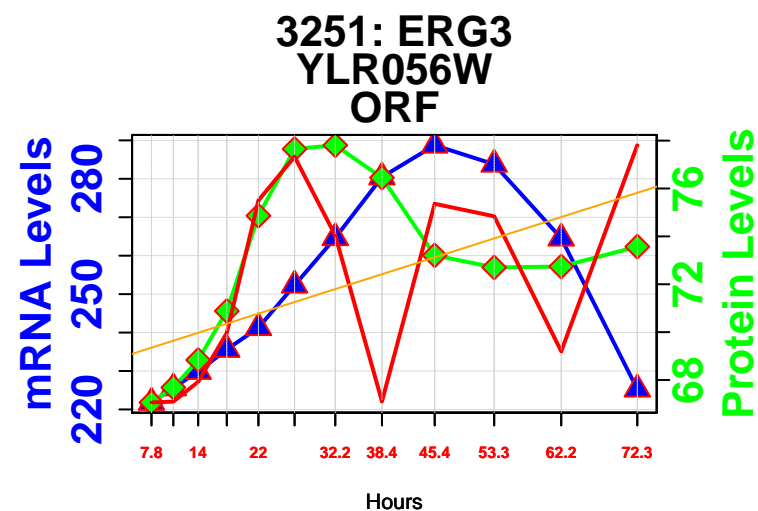
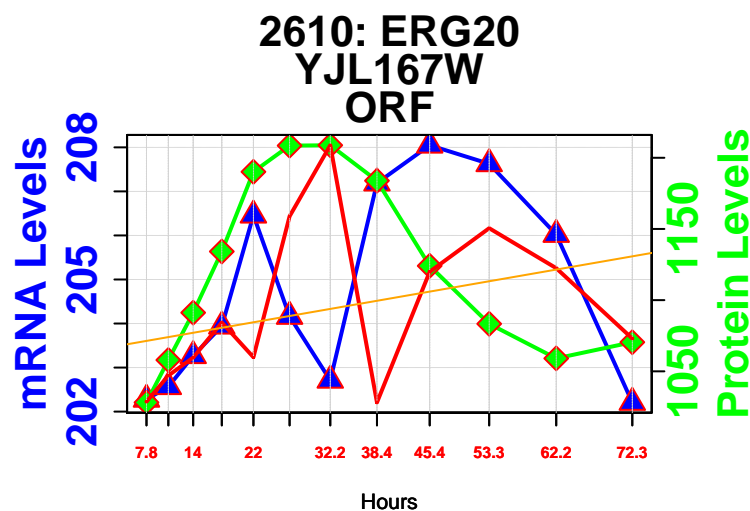
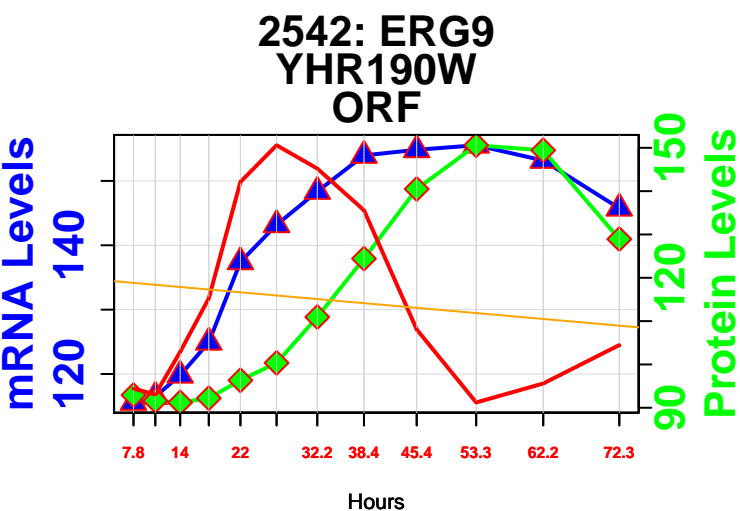
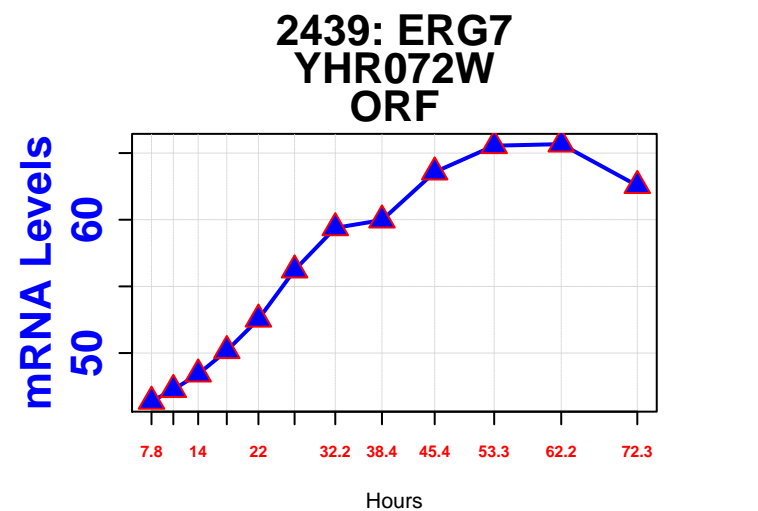
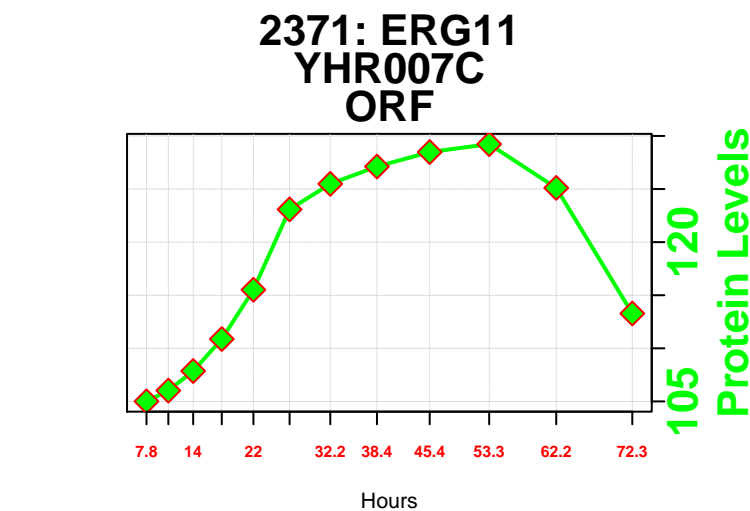
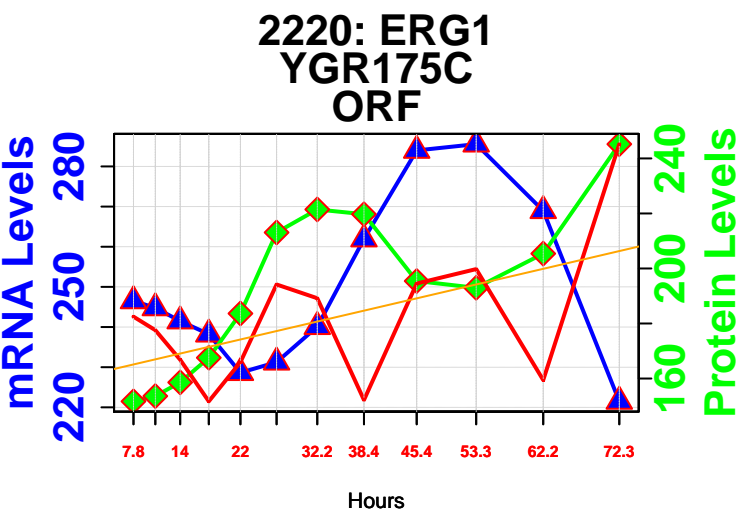
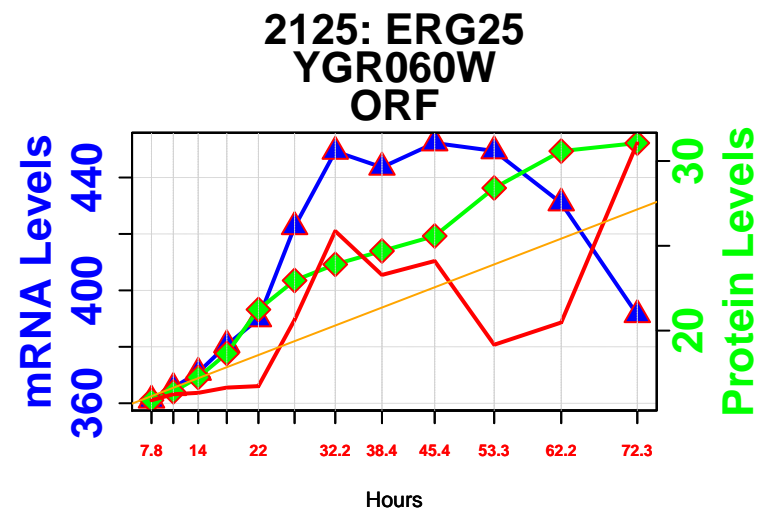
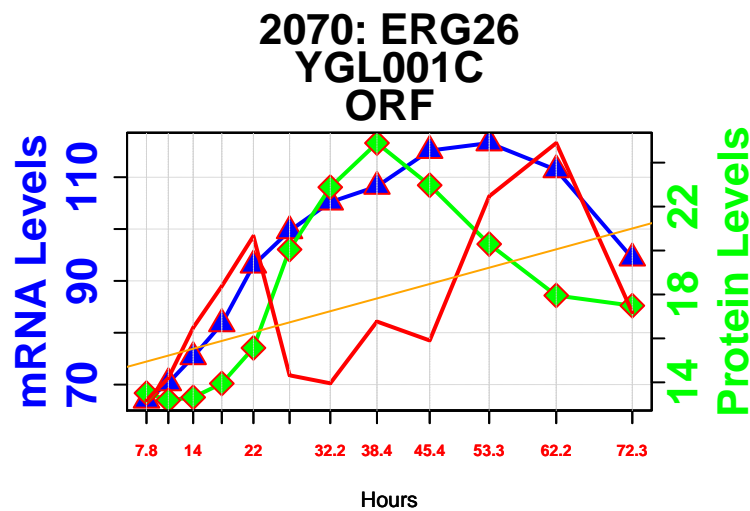
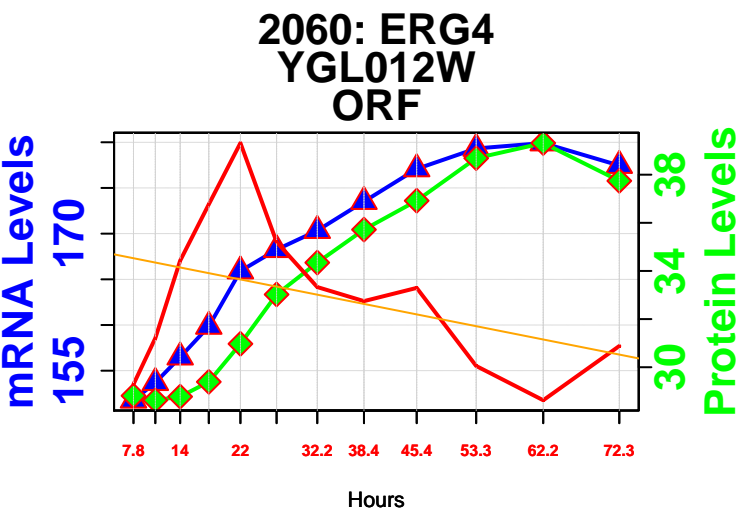
homocysteine and cysteine interconversion





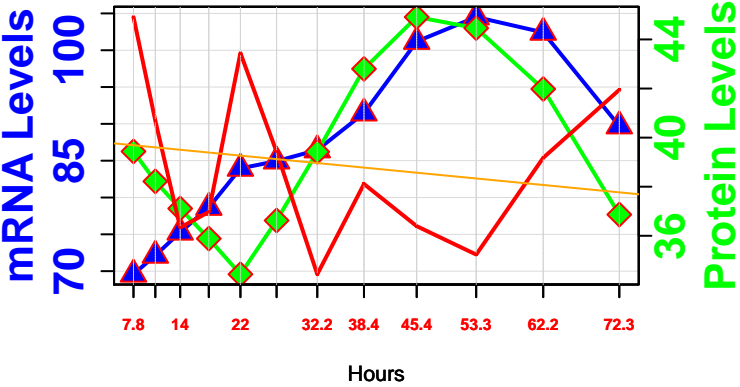




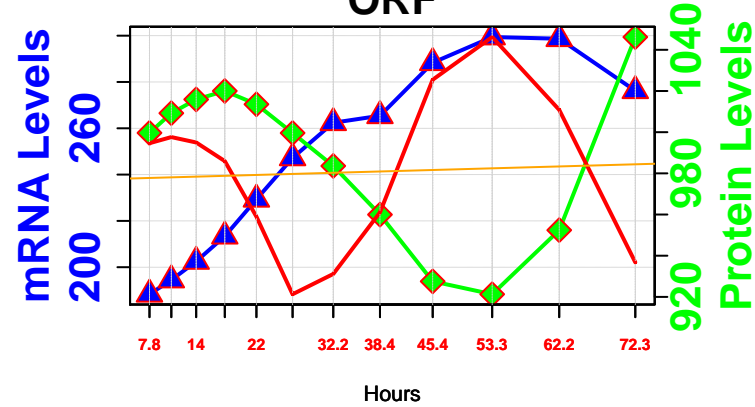


ergosterol biosynthesis

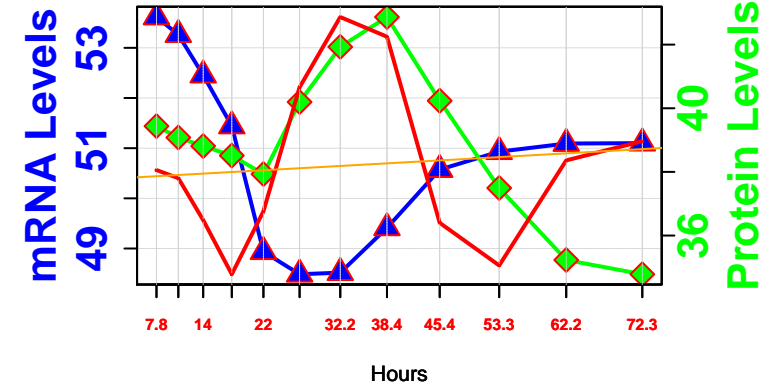
3290: ERG27
YLR100W
ORF



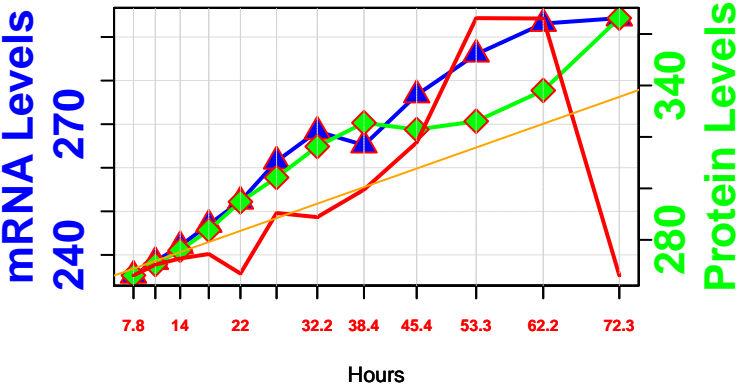
3711: ERG6
YML008C
ORF



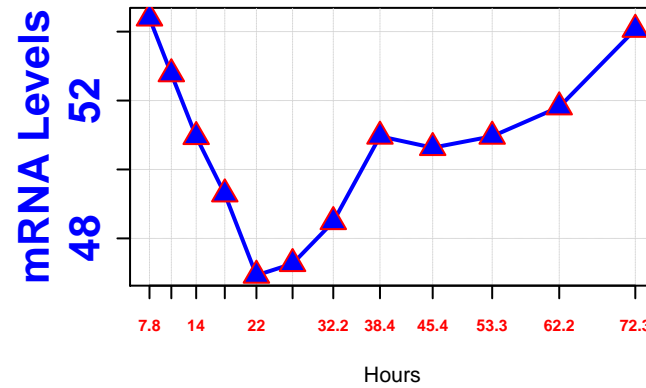
3732: ERG5
YMR015C
ORF



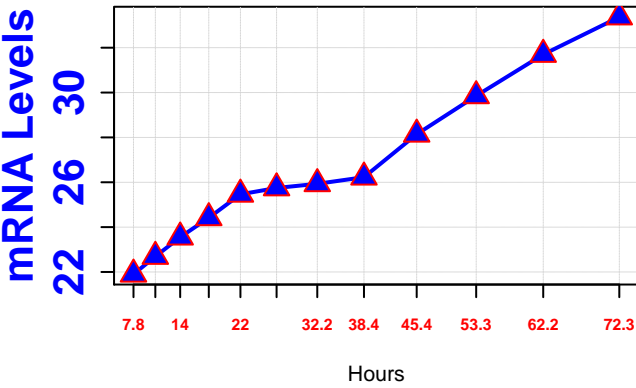
3891: ERG2
YMR202W
ORF



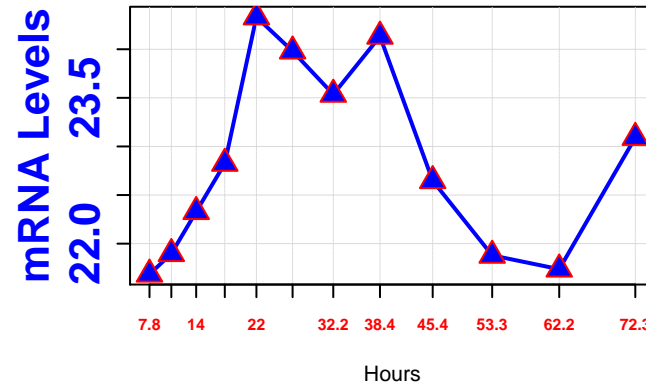
4050: ERG24
YNL280C
ORF



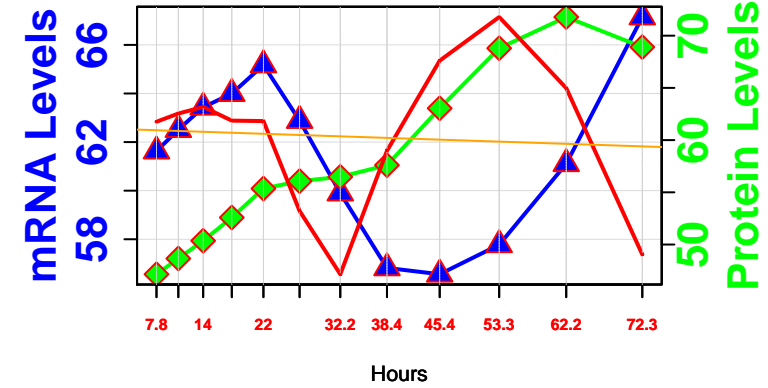
1177: URH1
YDR400W
ORF



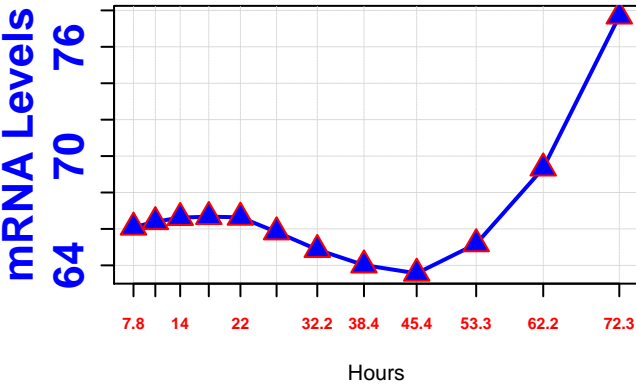
2079: NMA2
YGR010W
ORF



3377: PNP1
YLR209C
ORF

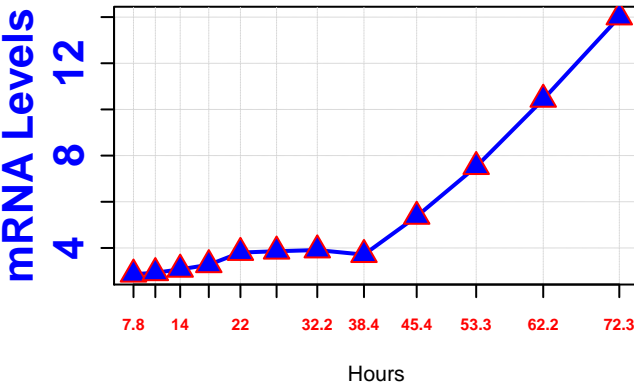


4181: NRK1
YNL129W
ORF

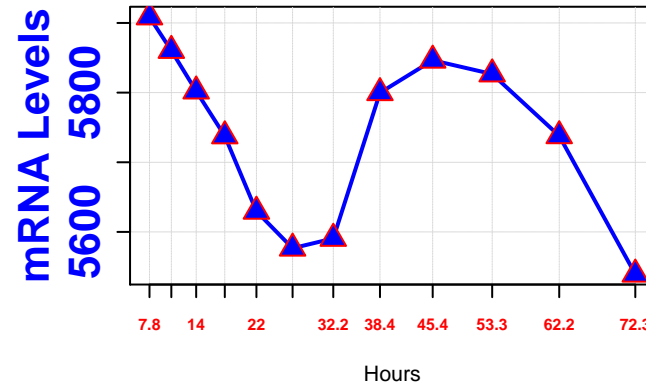


acetoin biosynthesis II

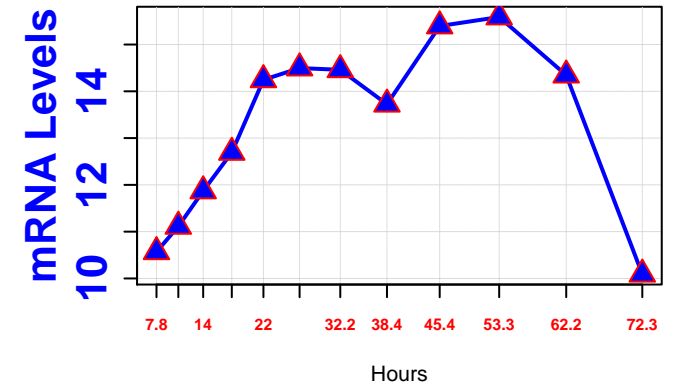
2147: PDC6
YGR087C
ORF



3240: PDC1
YLR044C
ORF

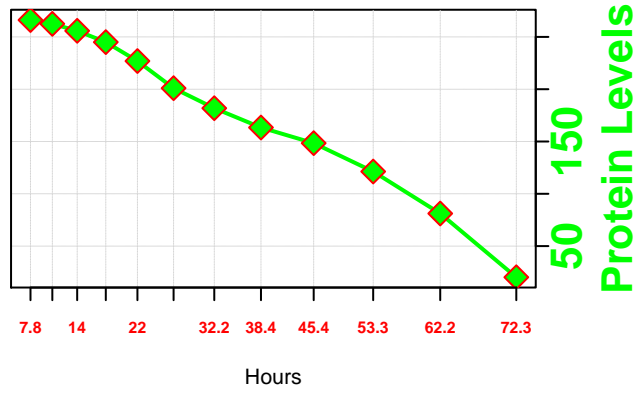


3319: PDC5
YLR134W
ORF

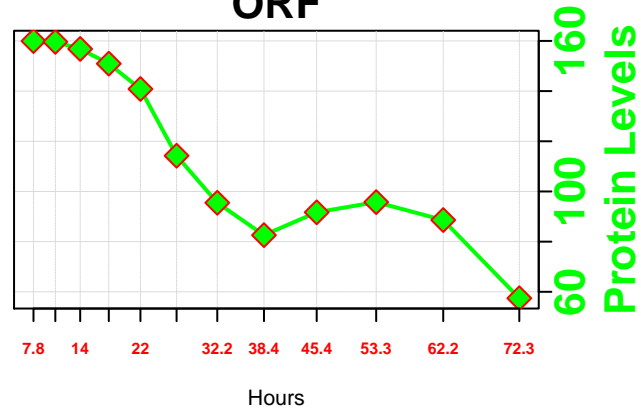


removal of superoxide radicals

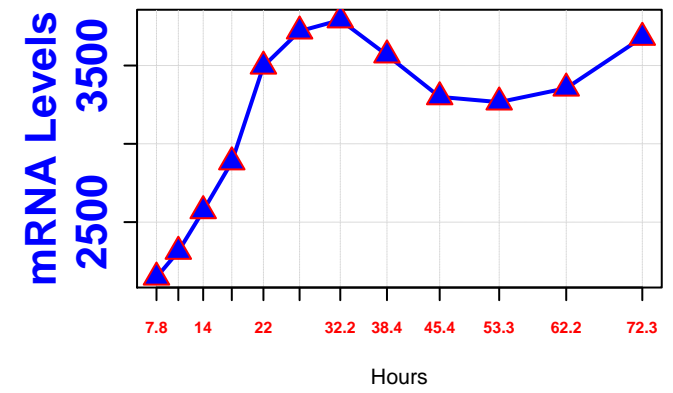
2148: CTT1
YGR088W
ORF



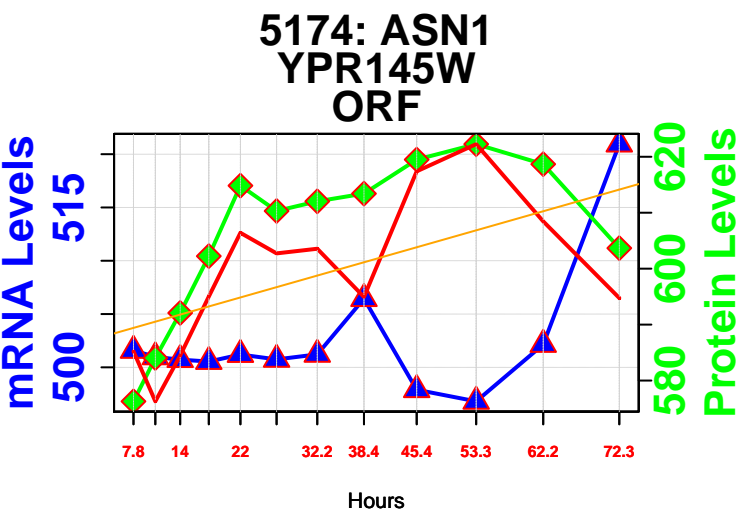
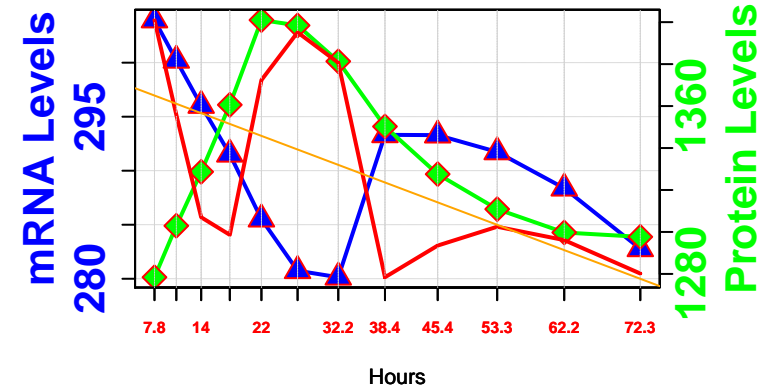
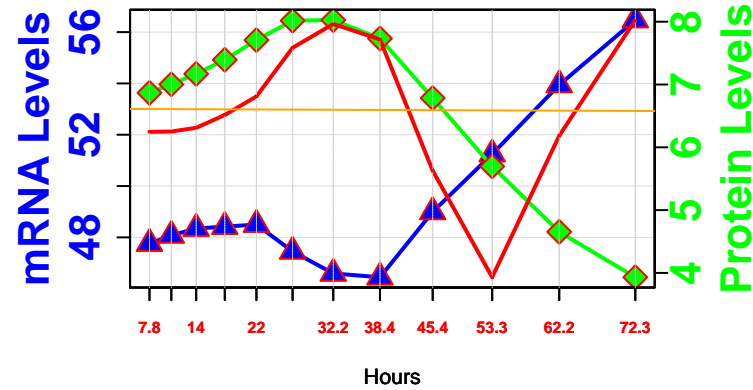
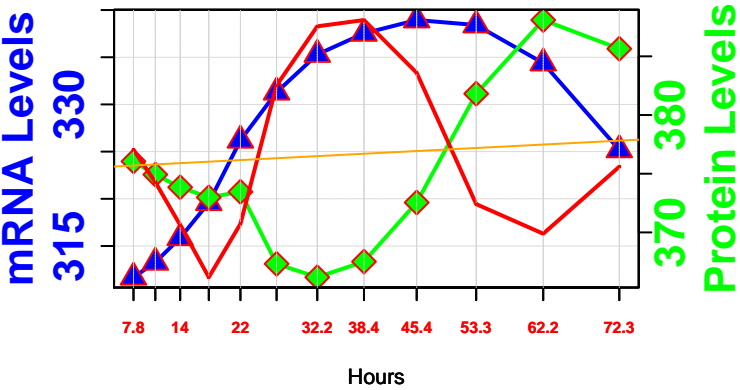
2373: SOD2
YHR008C
ORF



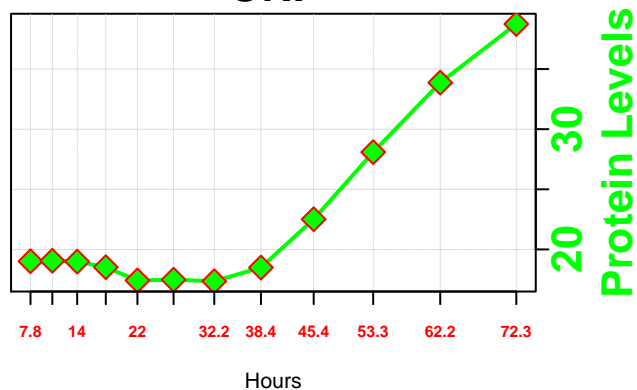
2831: SOD1
YJR104C
ORF



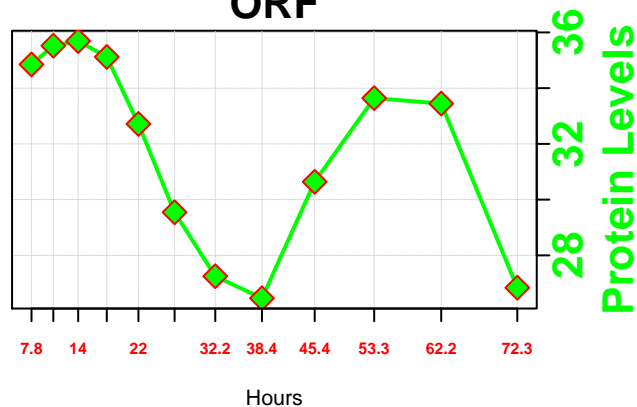
phospholipid biosynthesis (Kennedy pathway)



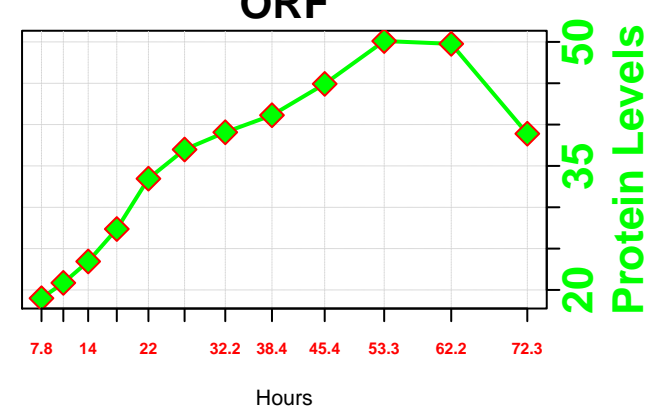
294: TKL2
YBR117C
ORF



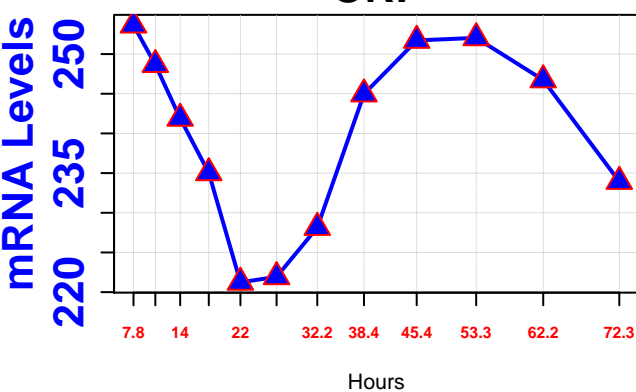
2281: SOL4
YGR248W
ORF



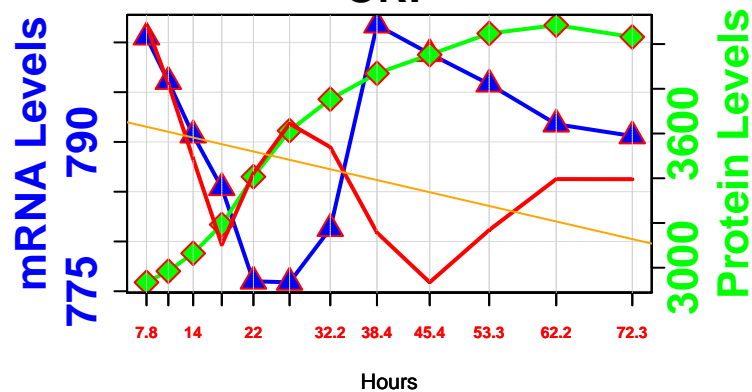
2289: GND2
YGR256W
ORF



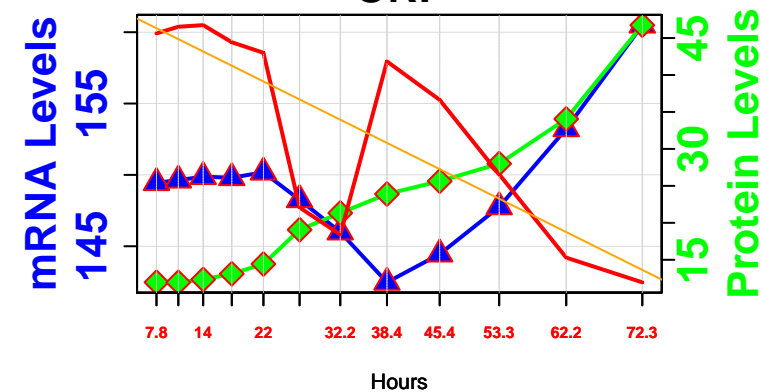
2517: SOL3
YHR163W
ORF



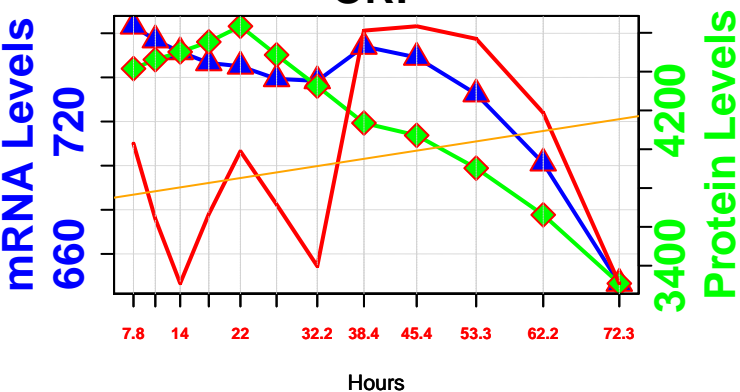
2538: GND1
YHR183W
ORF



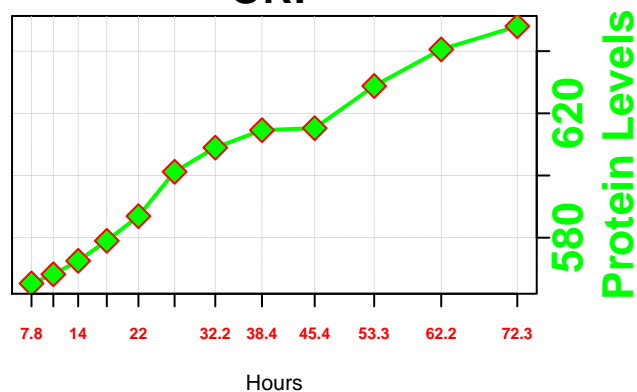
2645: RPE1
YJL121C
ORF



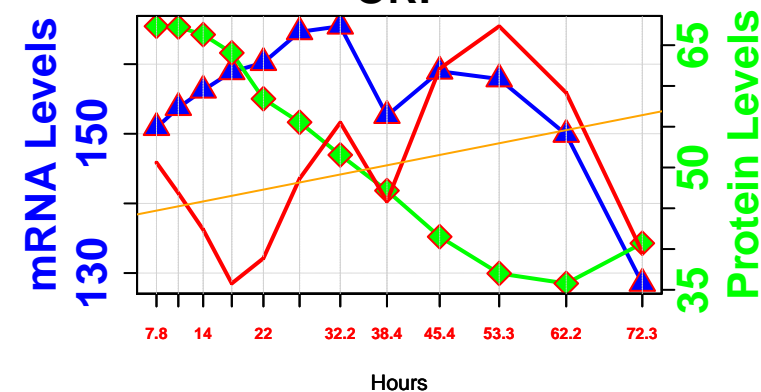
3504: TAL1
YLR354C
ORF

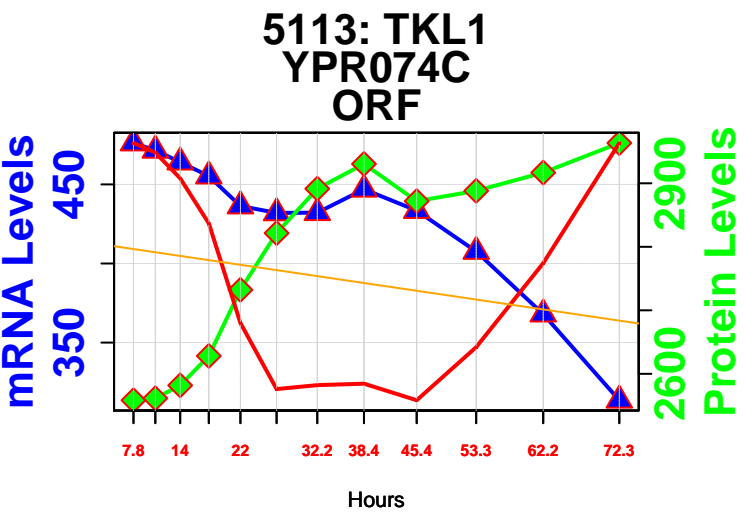


4086: ZWF1
YNL241C
ORF



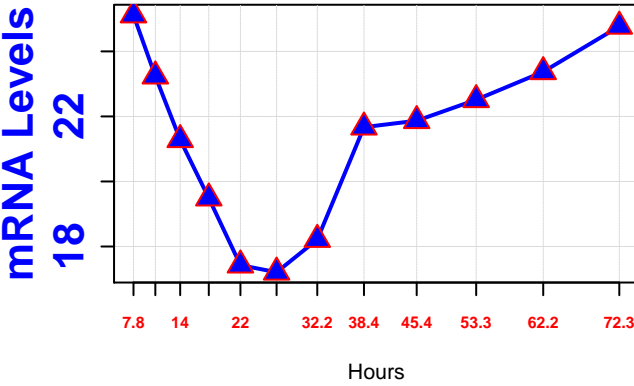
4563: RKI1
YOR095C
ORF



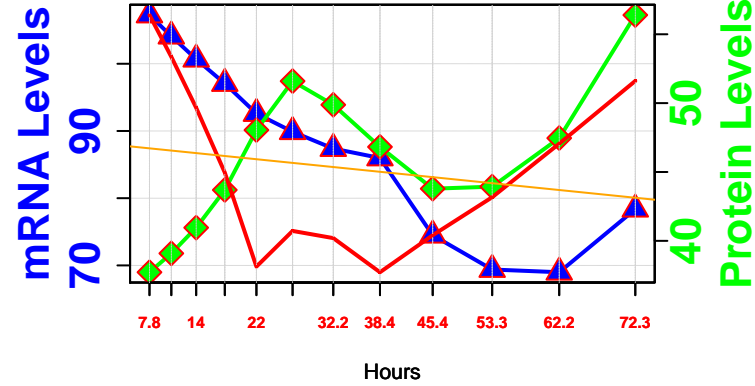


ubiquinone biosynthesis from 4-hydroxybenzoate

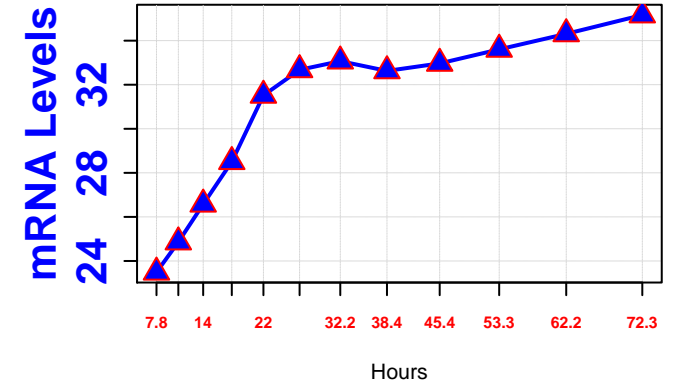
2288: COQ6
YGR255C
ORF



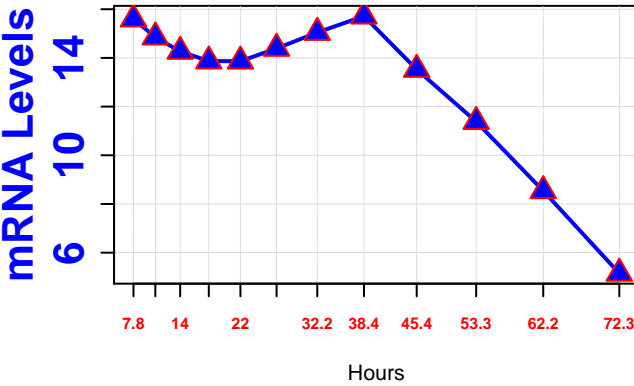
3616: COQ5
YML110C
ORF



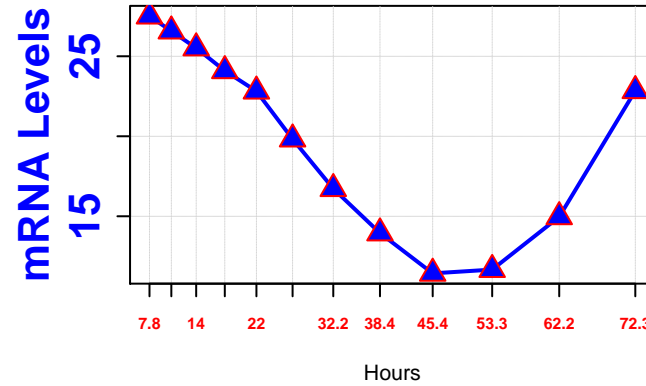
4322: COQ2
YNR041C
ORF



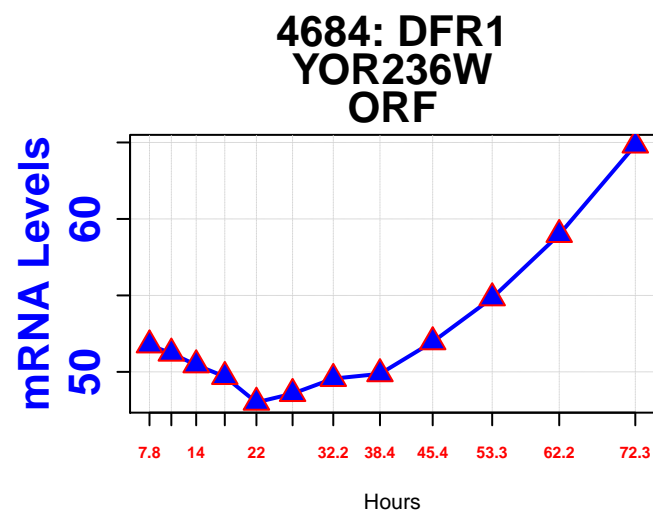
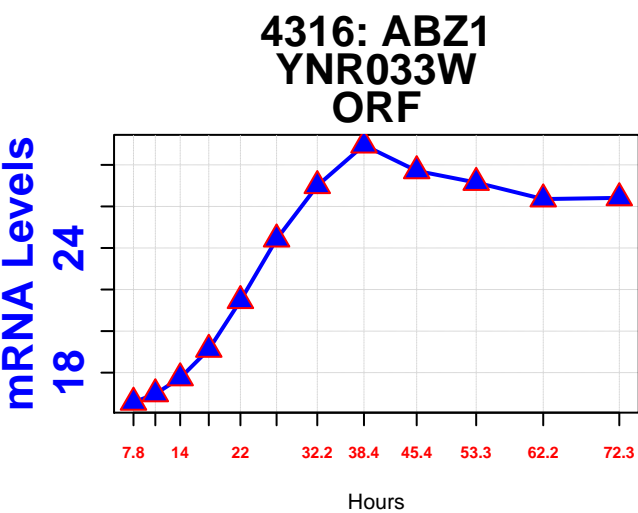
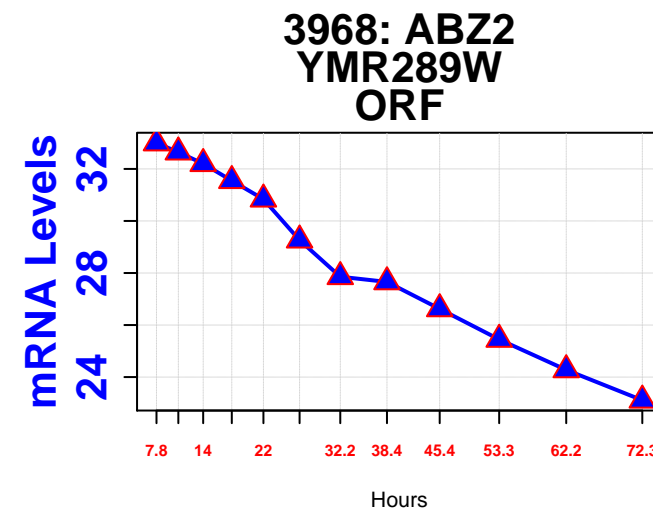
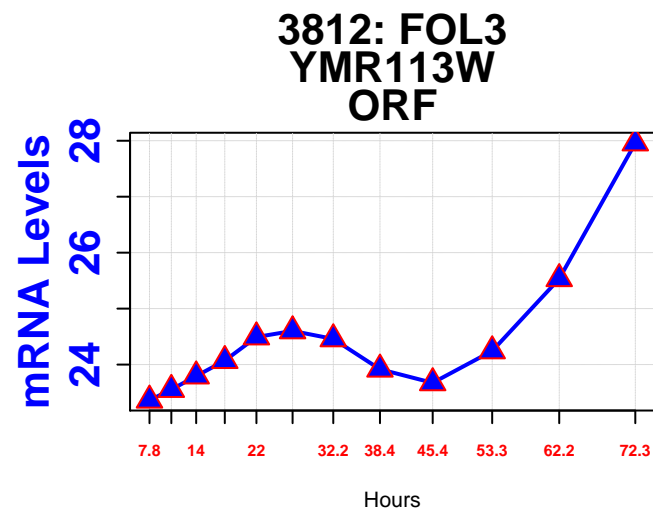
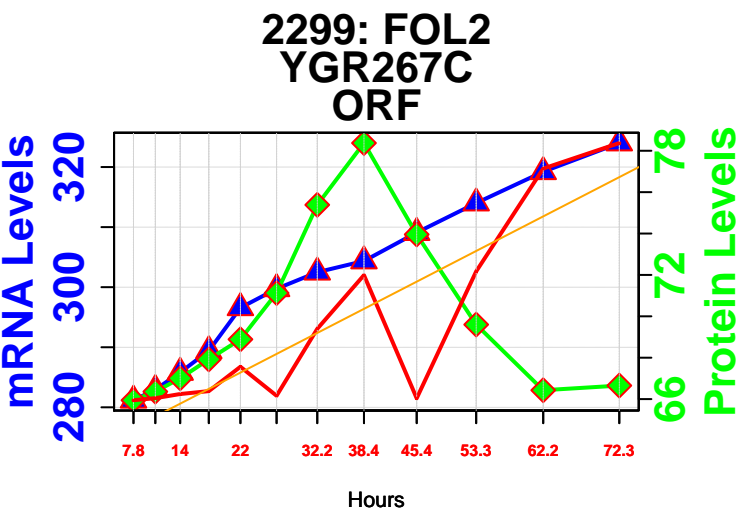
4404: COQ3
YOL096C
ORF



4588: CAT5
YOR125C
ORF

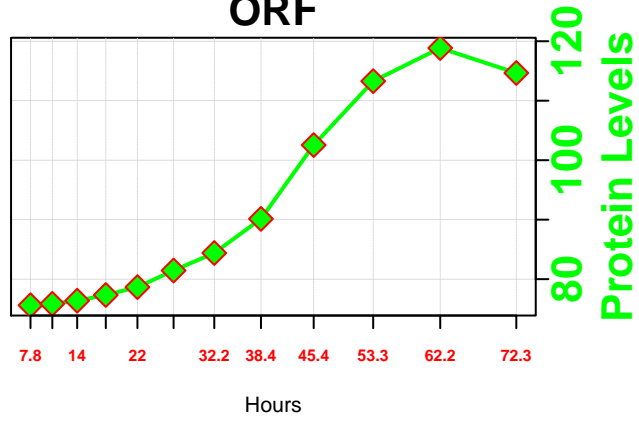


folate biosynthesis II

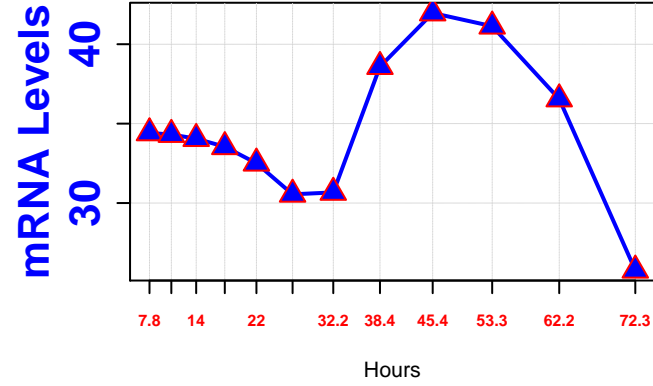


biotin biosynthesis

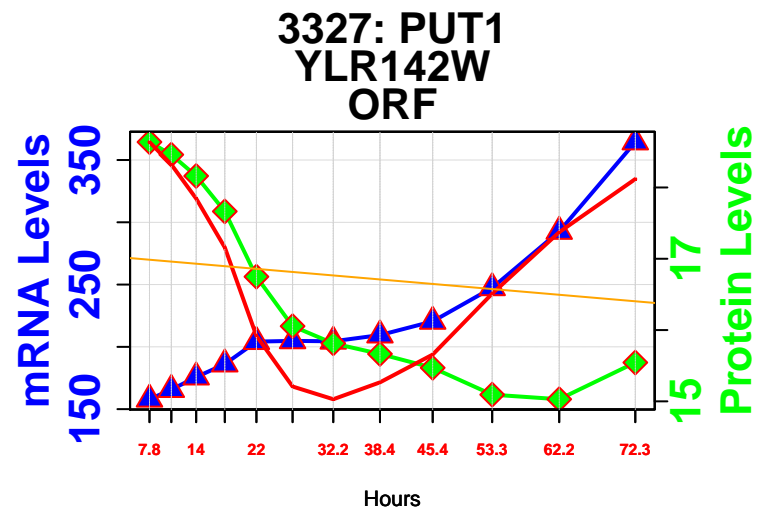
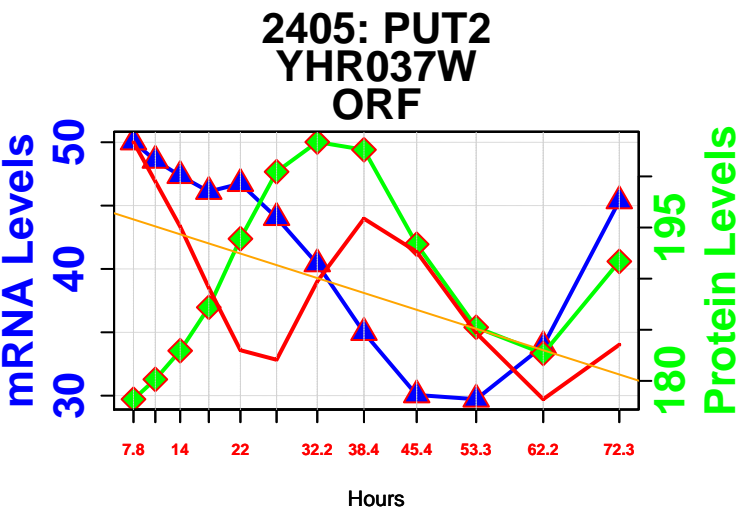
2315: BIO2
YGR286C
ORF



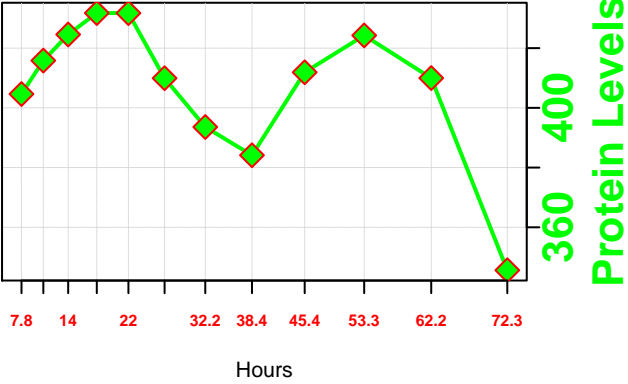
4334: BIO4
YNR057C
ORF

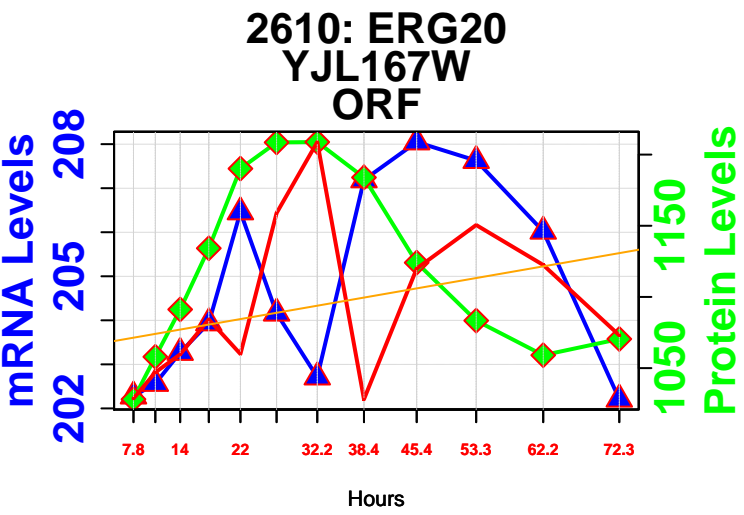


proline utilization



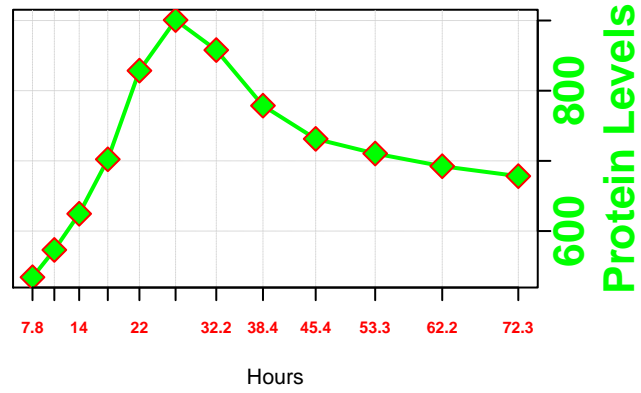
2468: GRE3
YHR104W
ORF





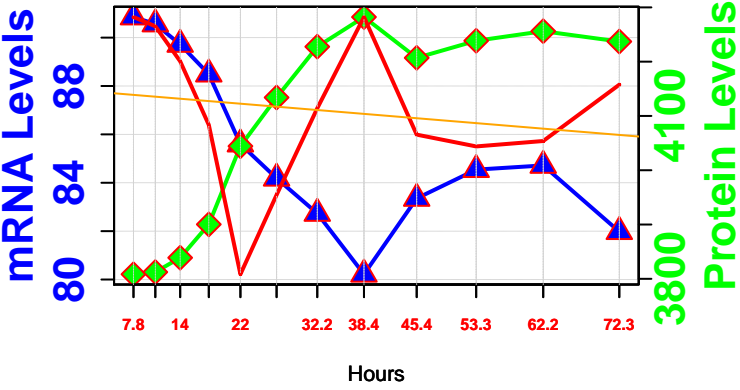
myo-inositol biosynthesis

2620: INO1
YJL153C
ORF

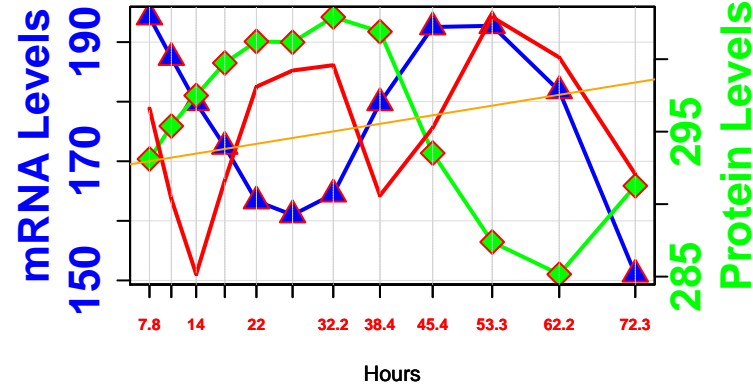


citrulline biosynthesis

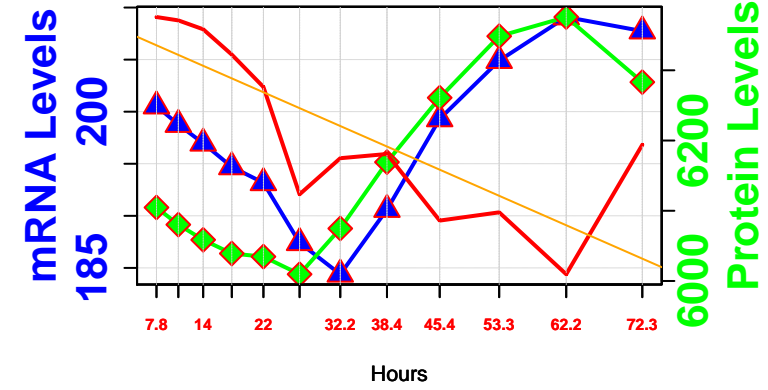
2636: URA2
YJL130C
ORF



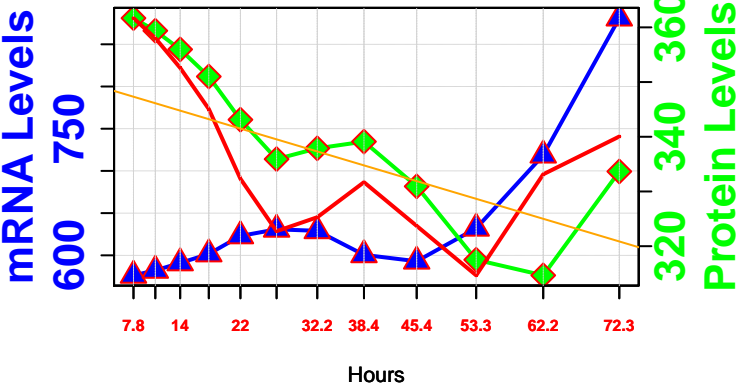
2669: ARG3
YJL088W
ORF



2835: CPA2
YJR109C
ORF

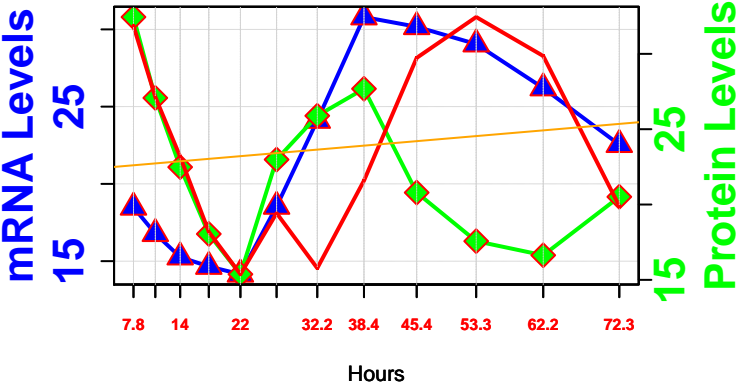


4743: CPA1
YOR303W
ORF

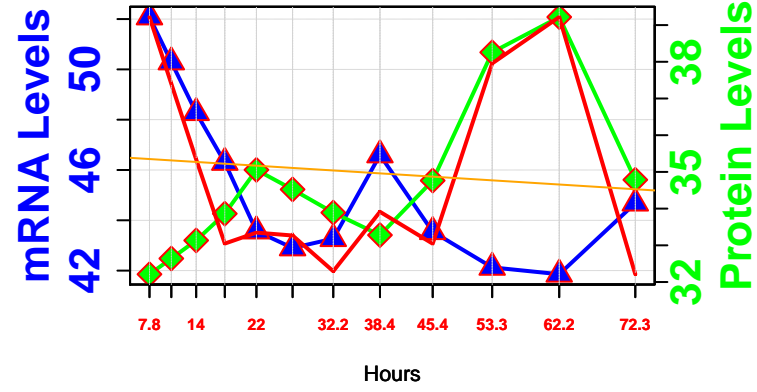


glutathione biosynthesis

2658: GSH1
YJL101C
ORF



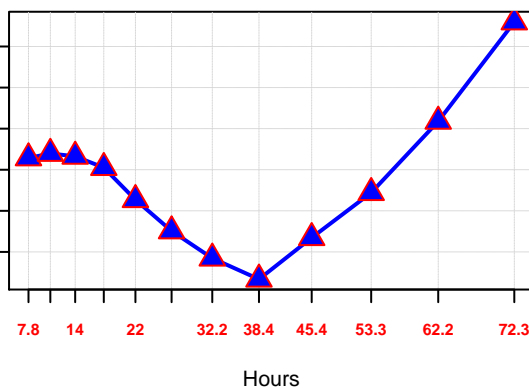
4439: GSH2
YOL049W
ORF



mRNA Levels

42
45

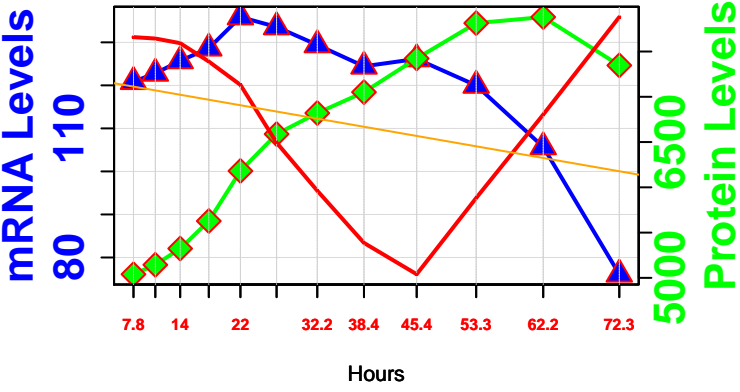
2909: SPE1
YKL184W
ORF



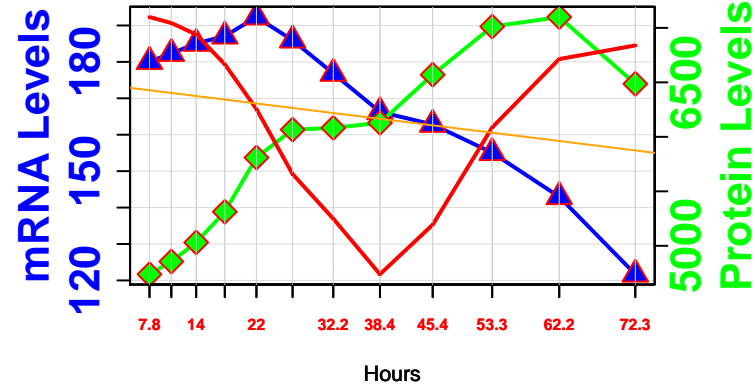
fatty acids
arabinose
glycerol
biotin
histidine
leucine
lysine
phenylalanine
serine
threonine
tryptophan
valine

myristate biosynthesis

2912: FAS1
YKL182W
ORF

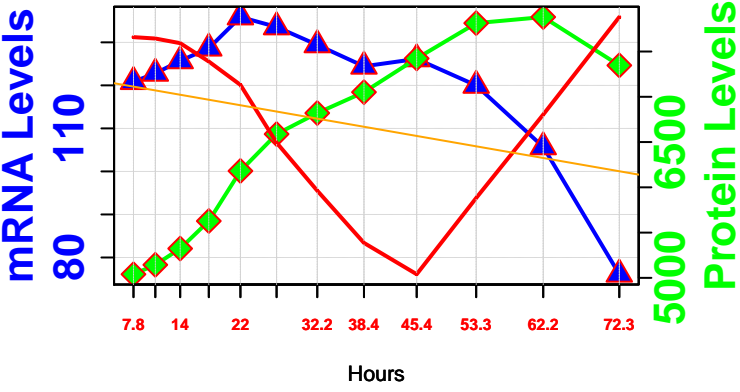


4867: FAS2
YPL231W
ORF

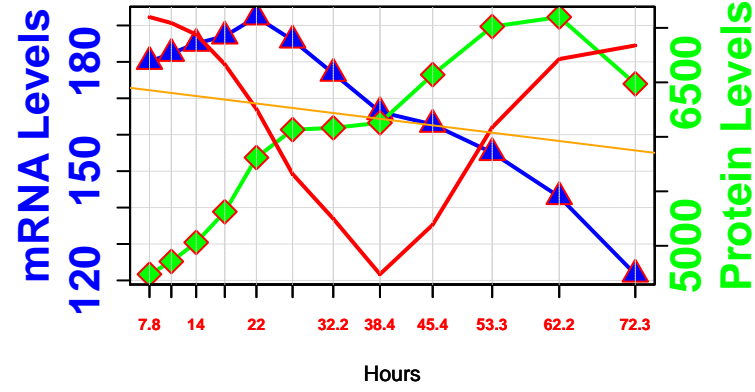


palmitate biosynthesis

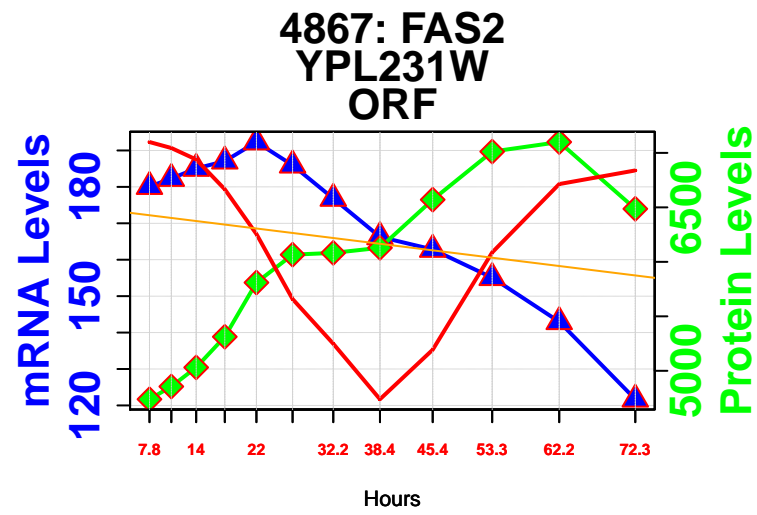
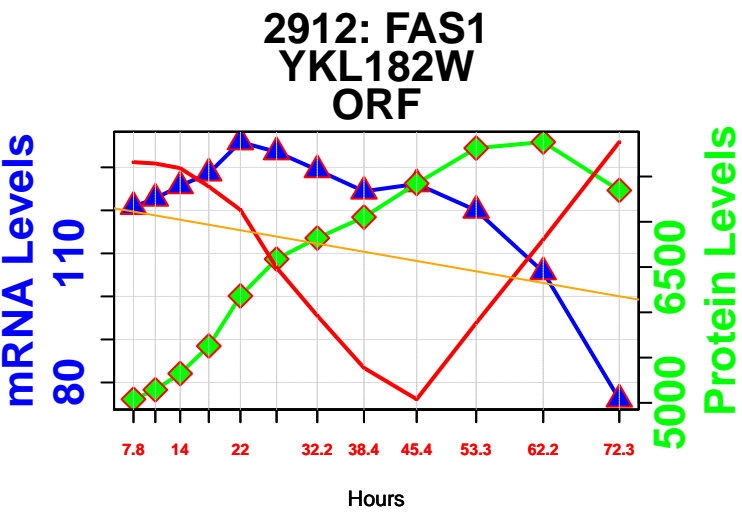
2912: FAS1
YKL182W
ORF



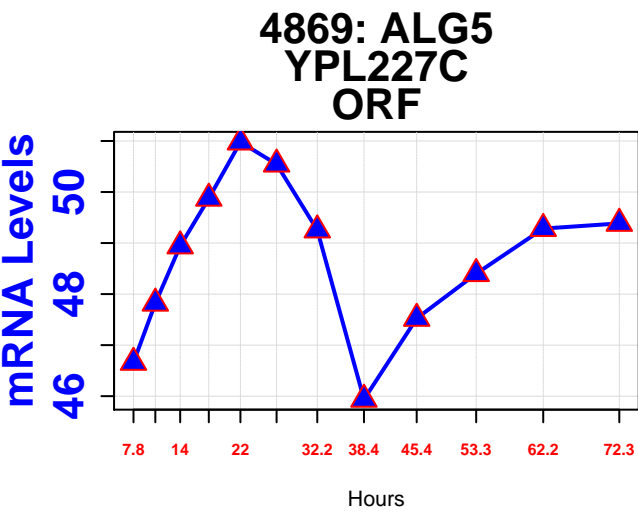
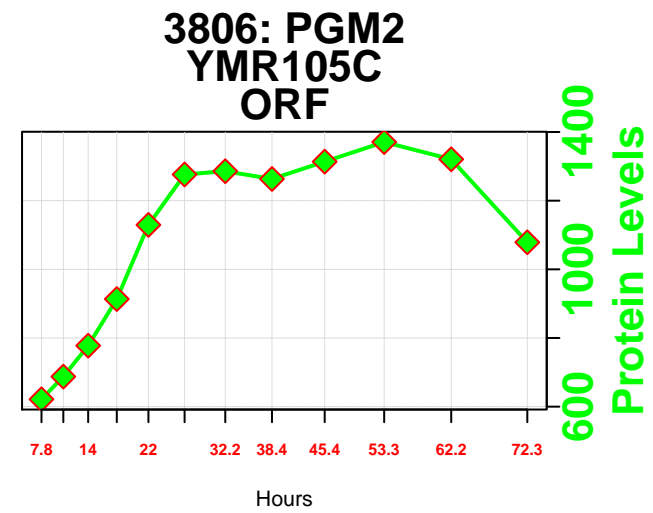
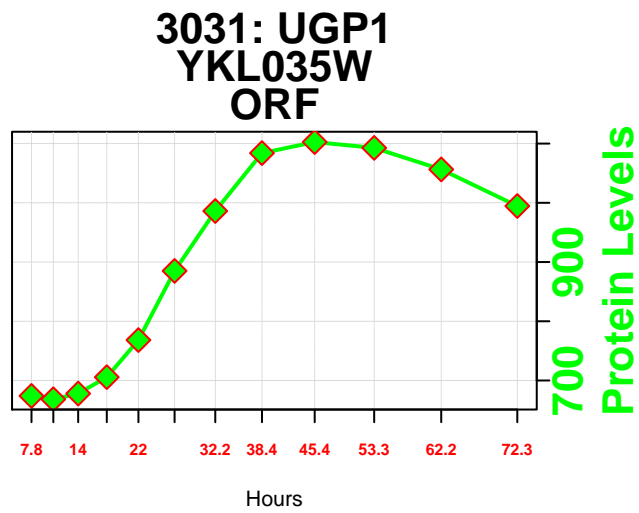
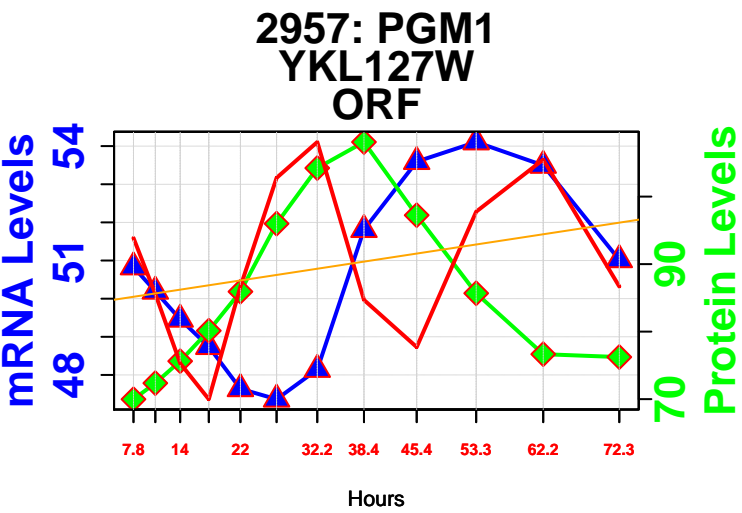
4867: FAS2
YPL231W
ORF



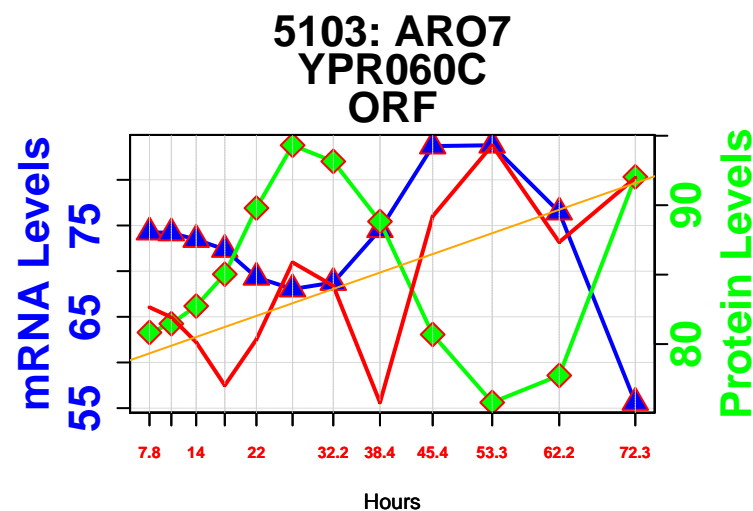
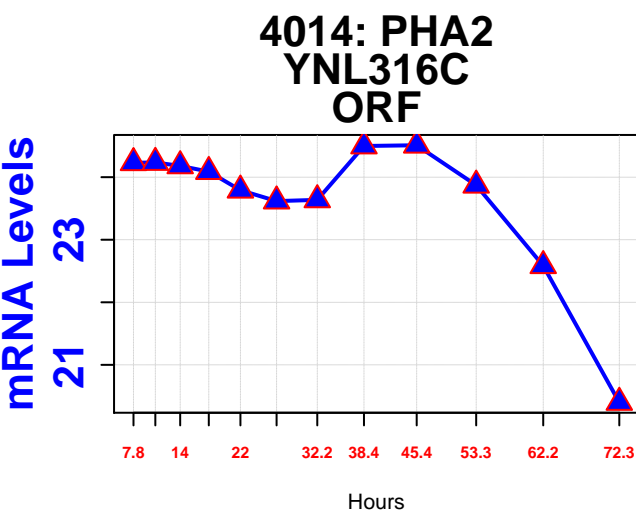
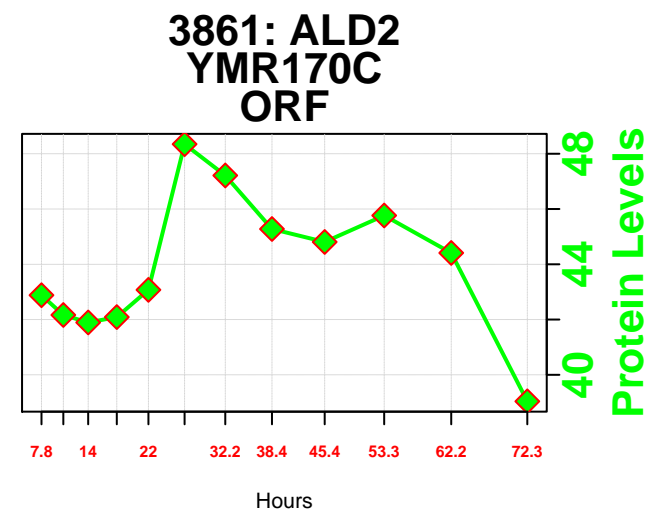
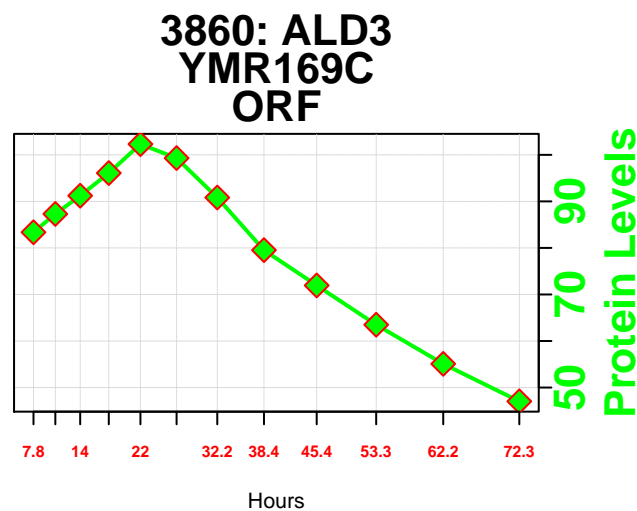
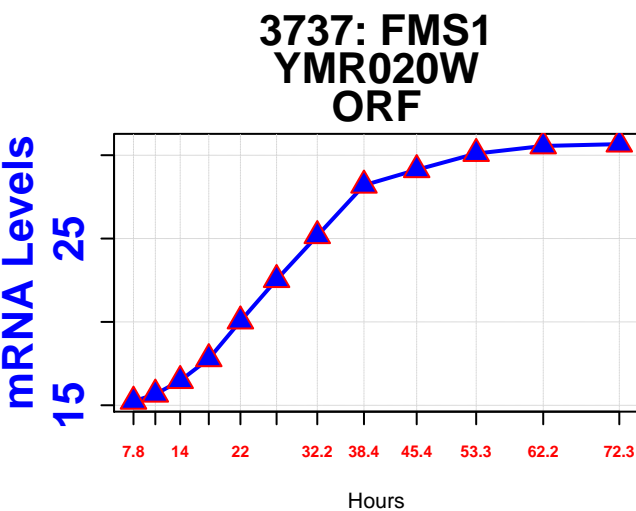
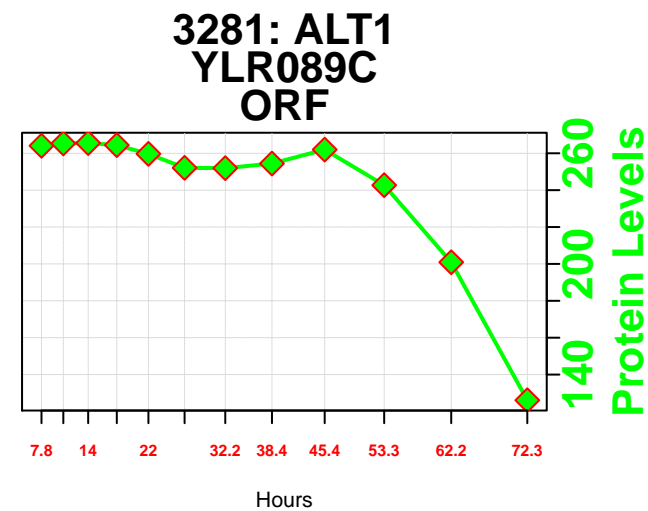
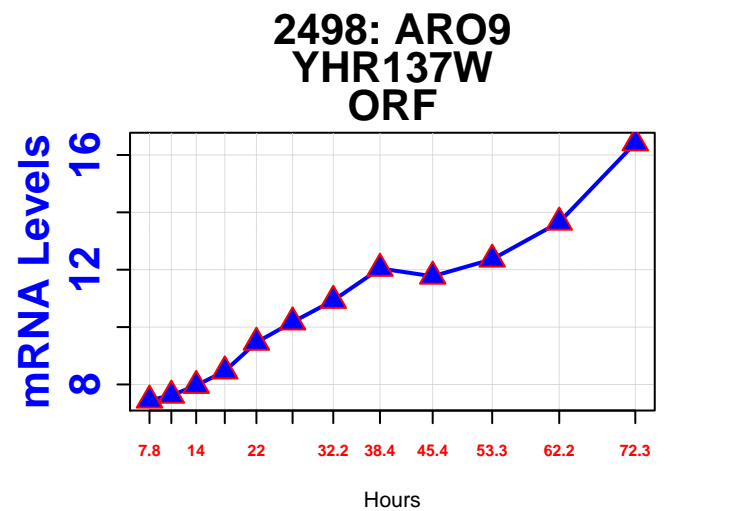
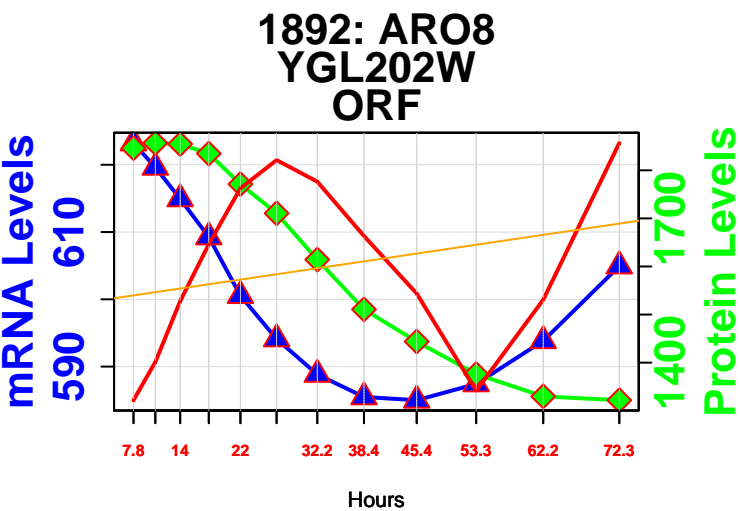
stearate biosynthesis

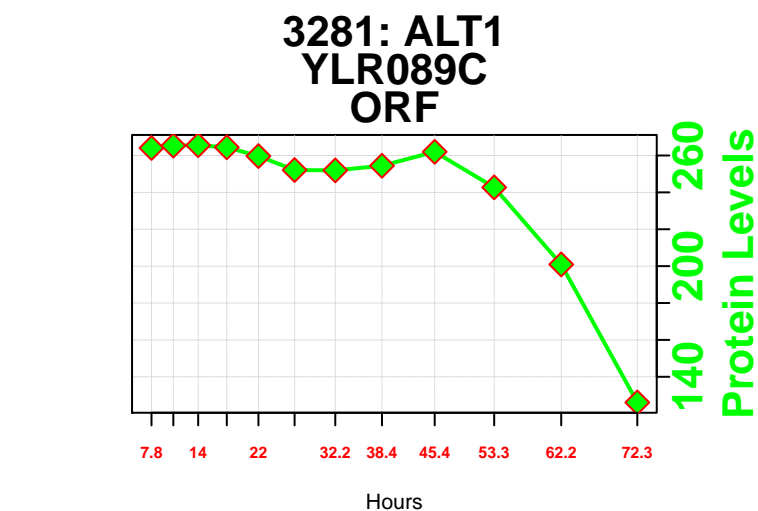
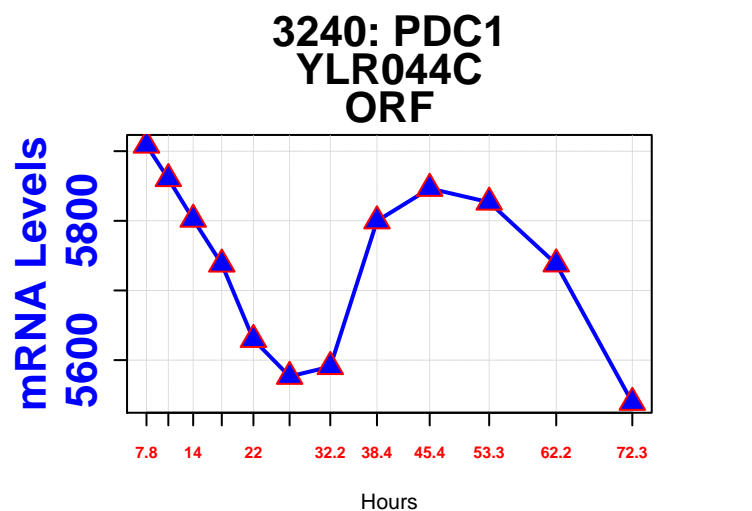
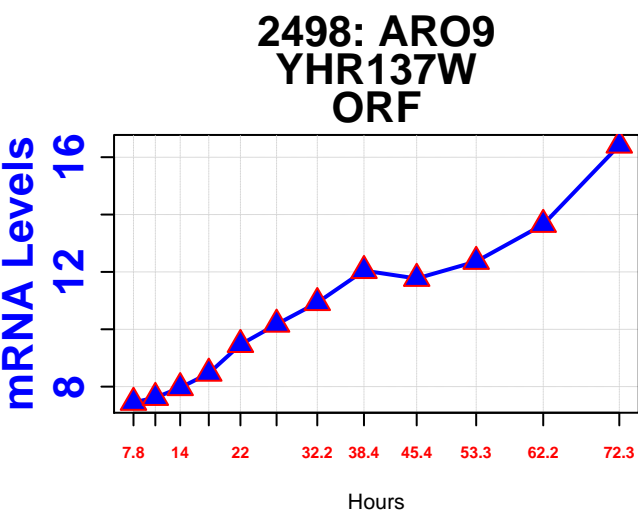
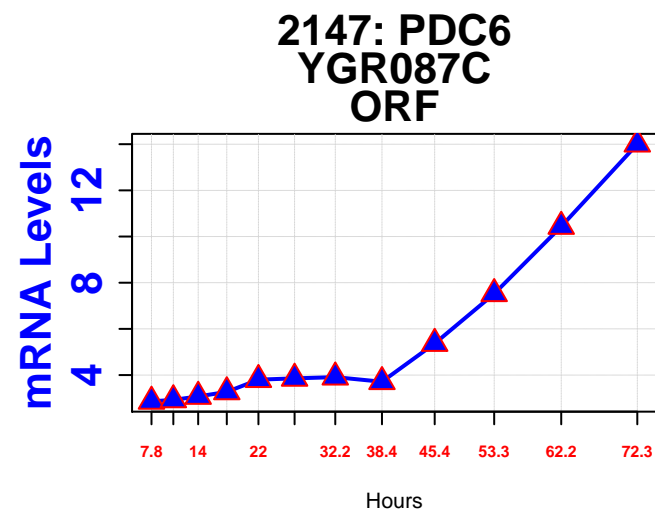
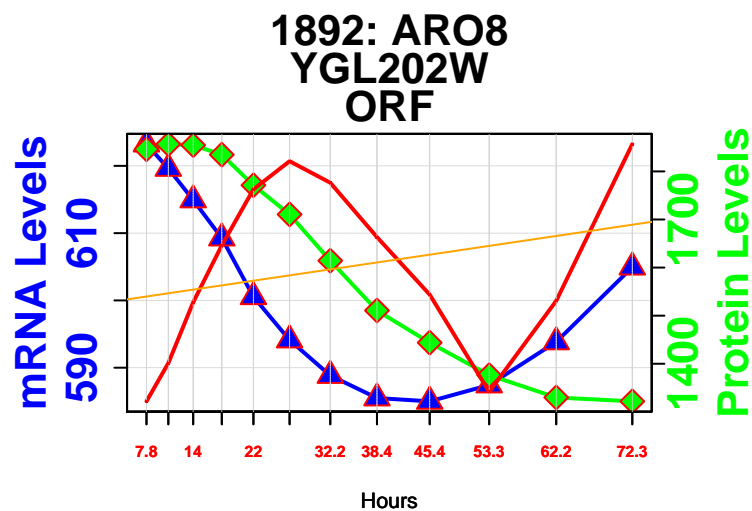
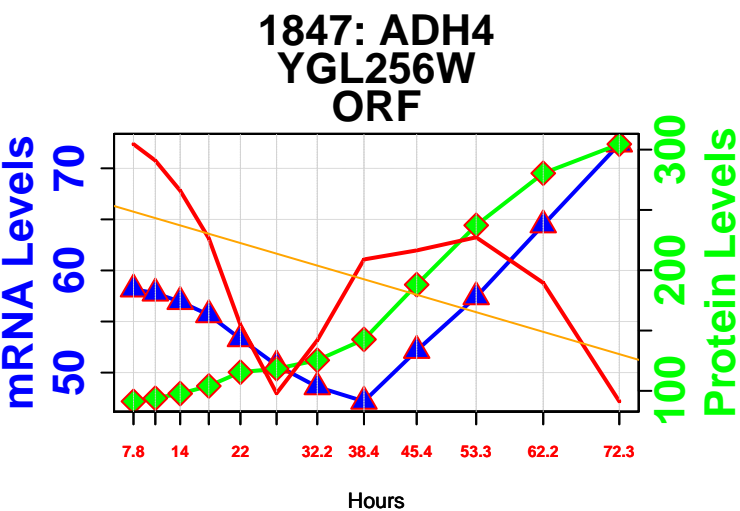
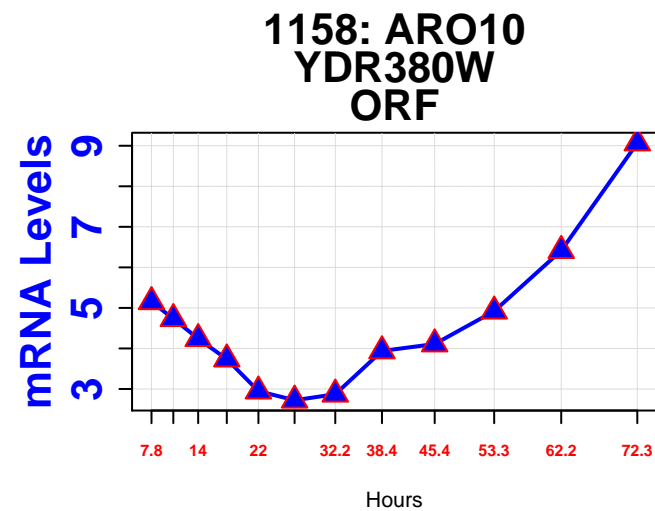
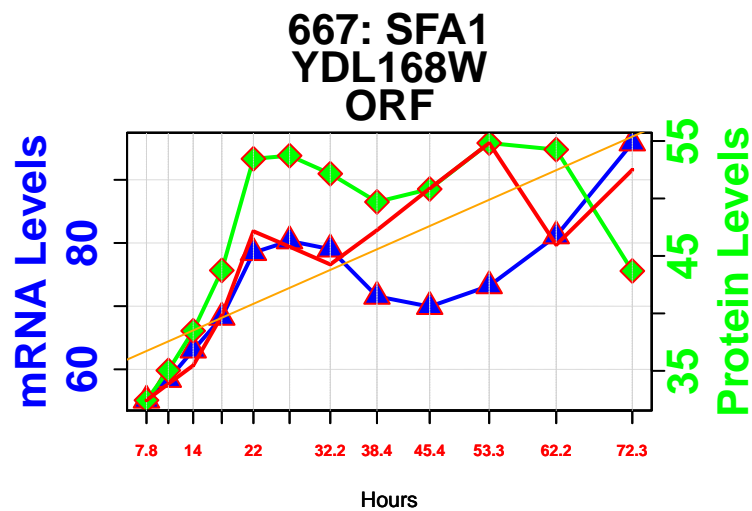
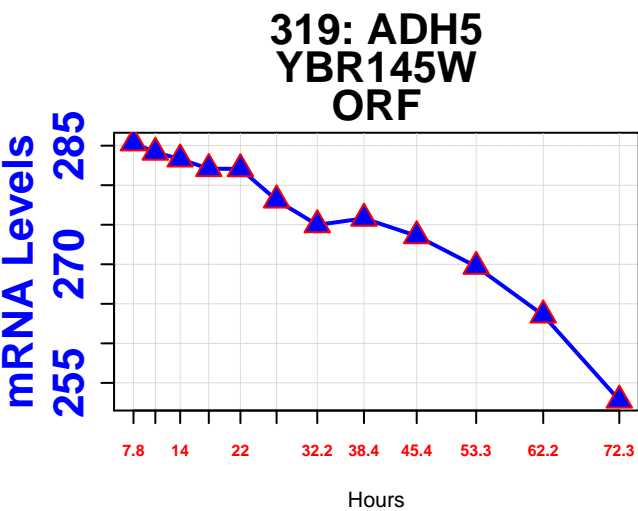


dolichyl glucosyl phosphate biosynthesis

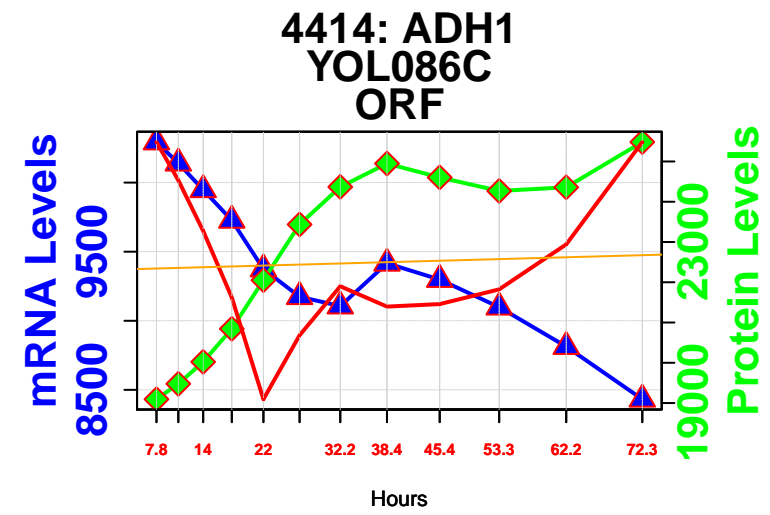
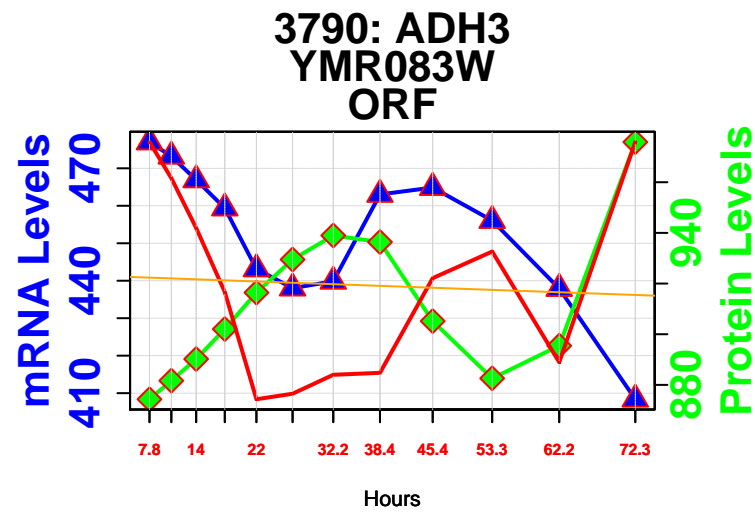
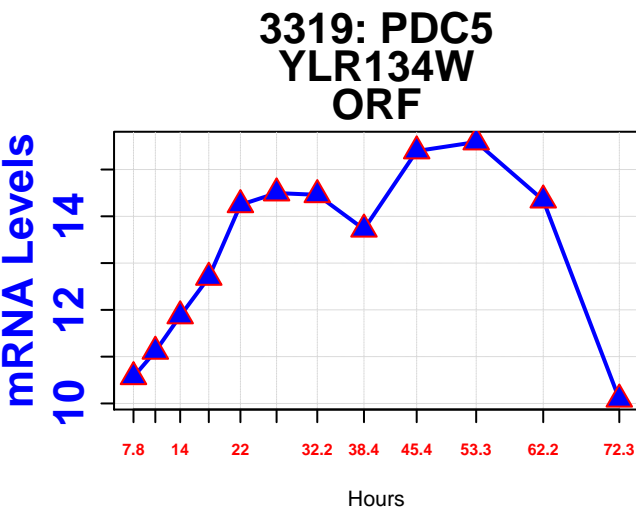


alanine biosynthesis



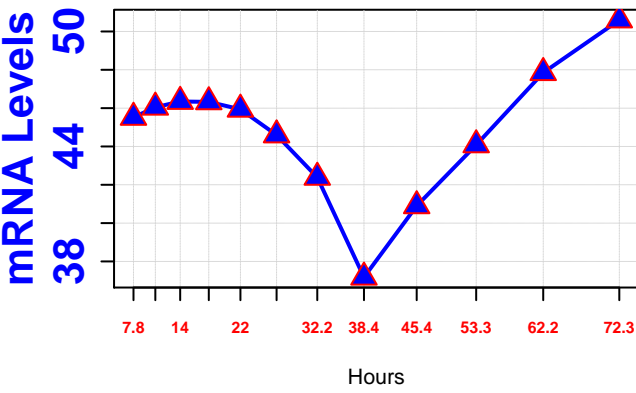


alanine degradation

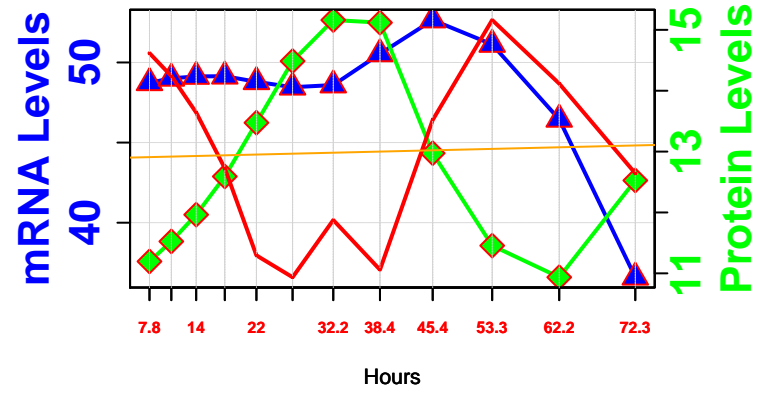


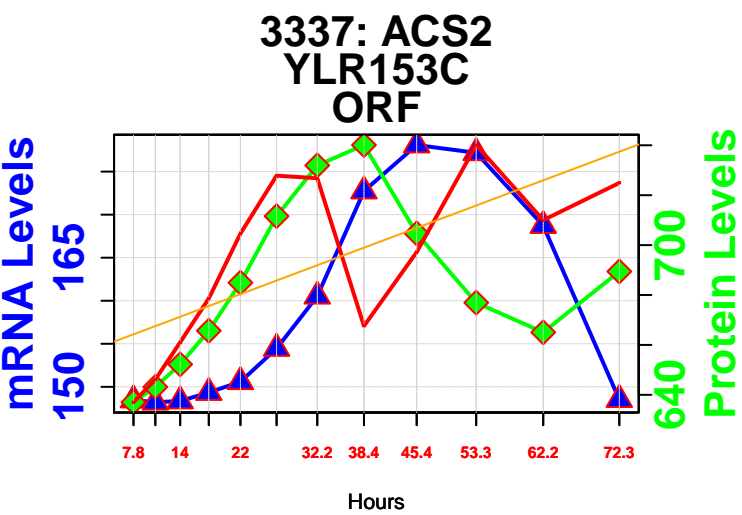
spermine and methylthioadenosine biosynthesis

3331: SPE4
YLR146C
ORF



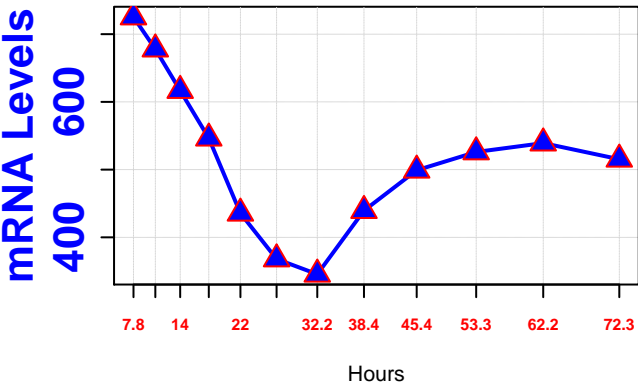
4436: SPE2
YOL052C
ORF



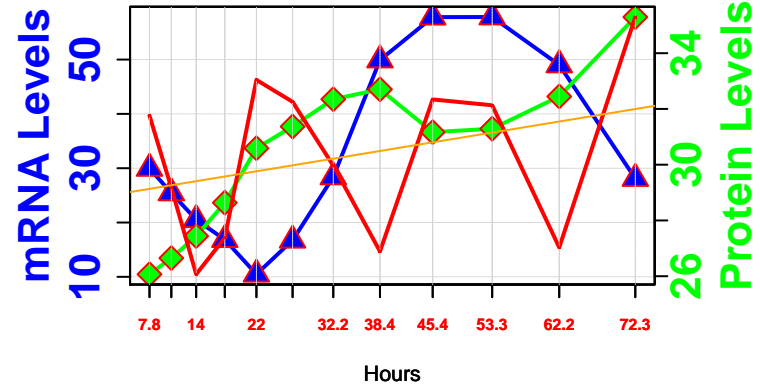


homocysteine biosynthesis

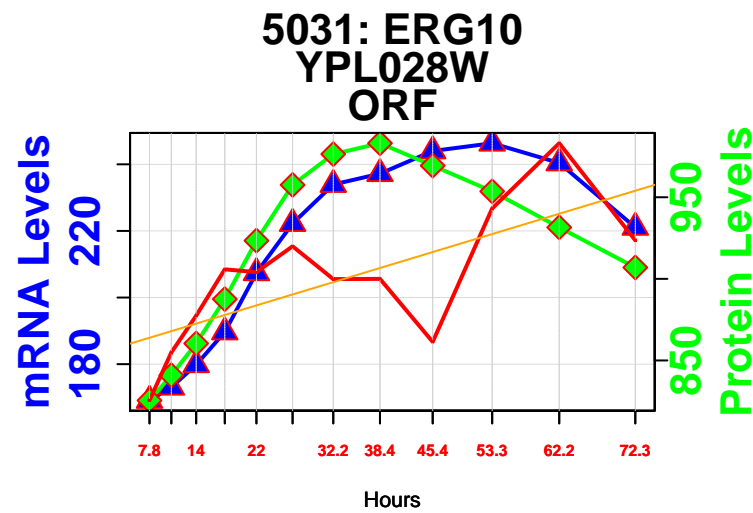
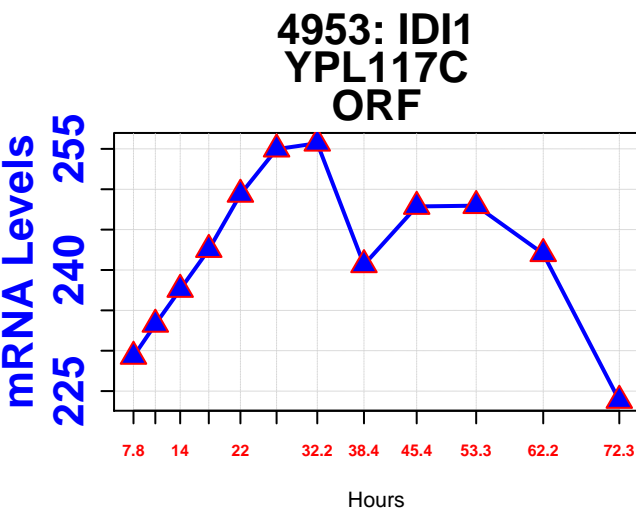
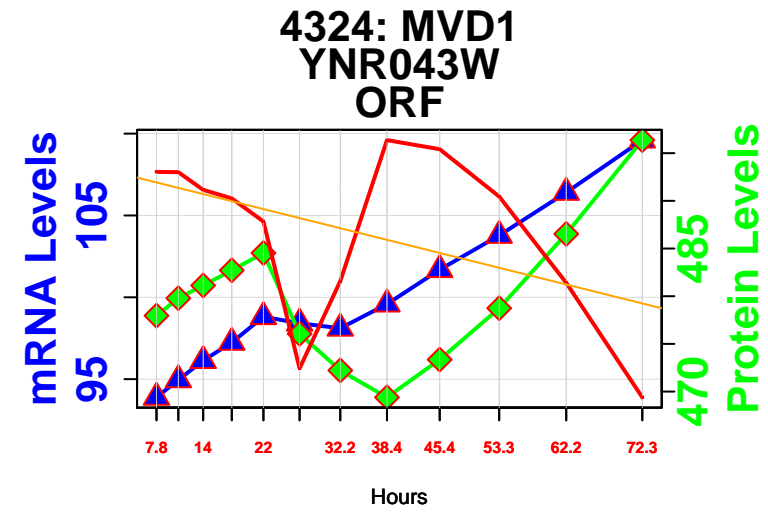
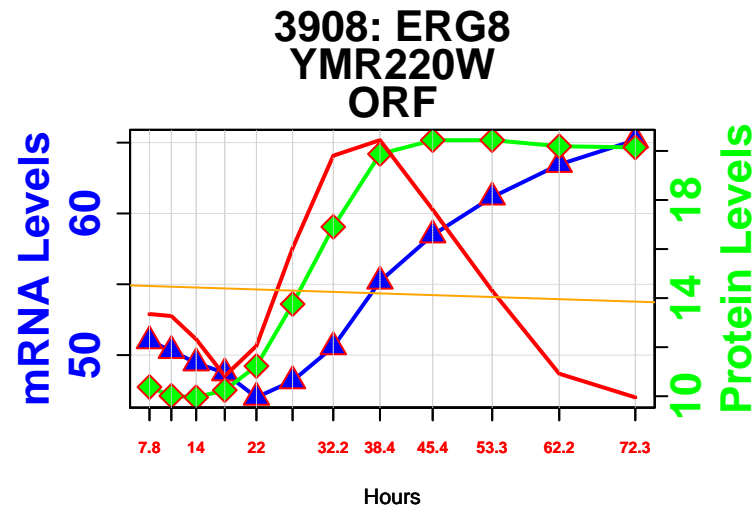
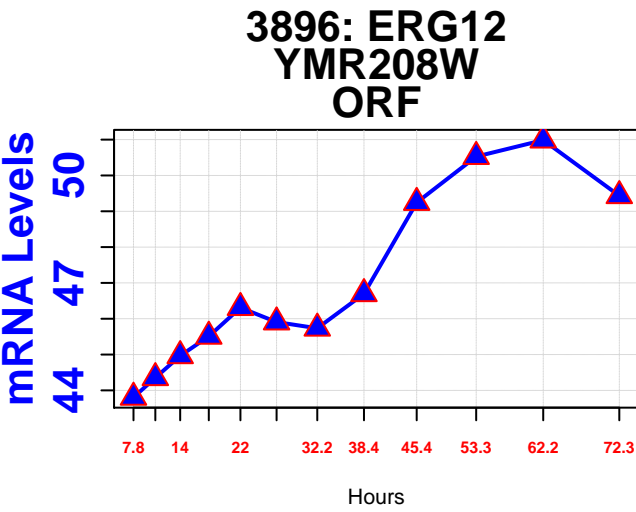
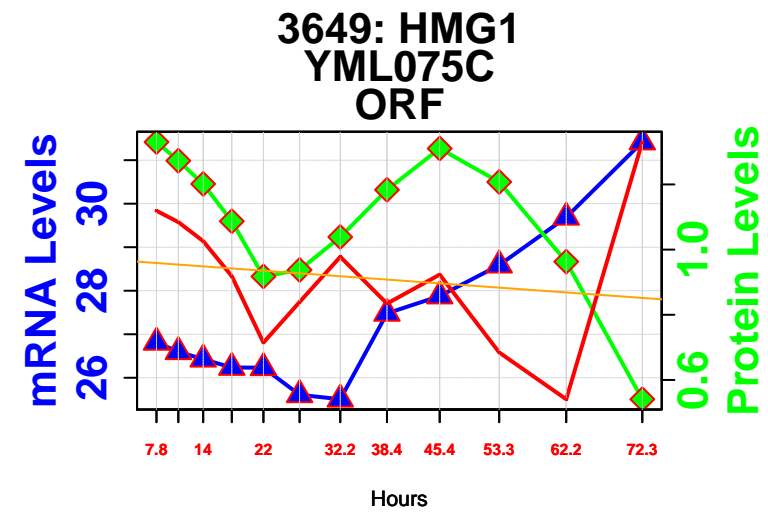
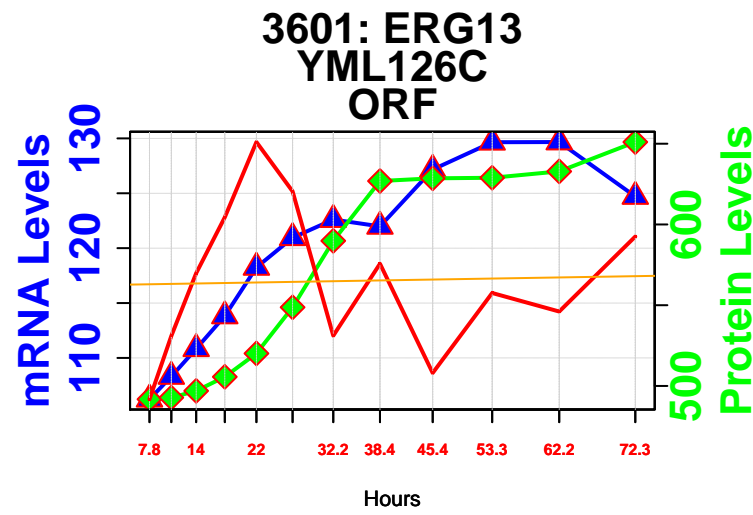
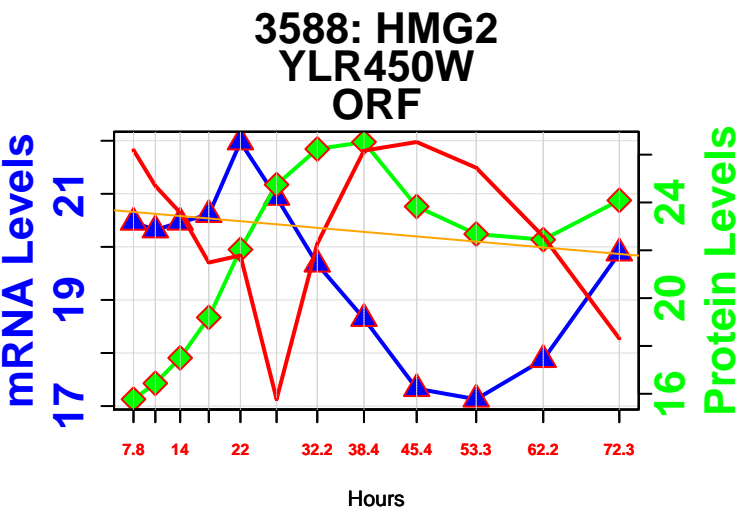
3462: MET17
YLR303W
ORF

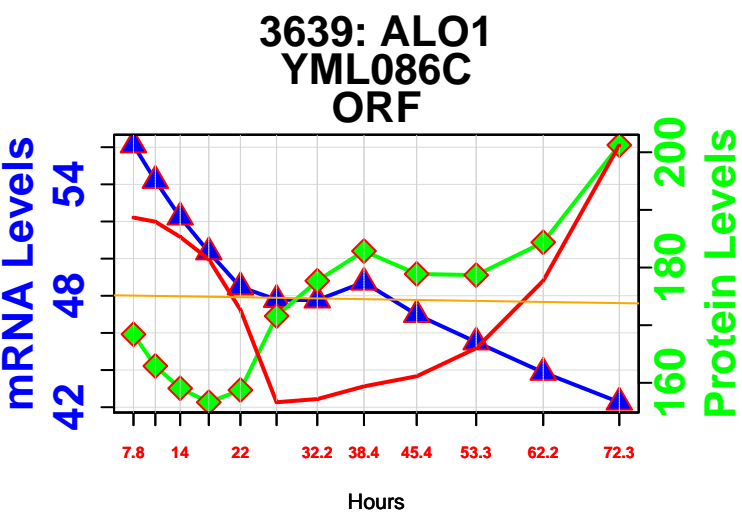


4054: MET2
YNL277W
ORF



mevalonate pathway

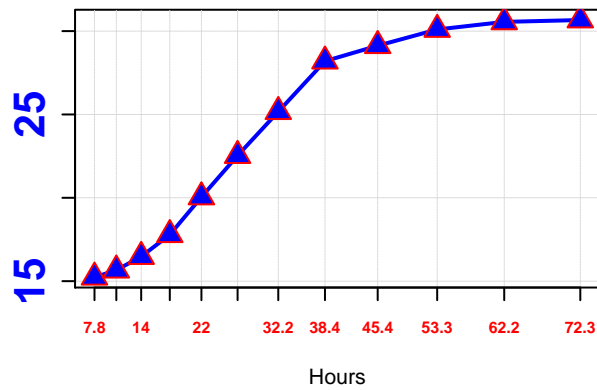




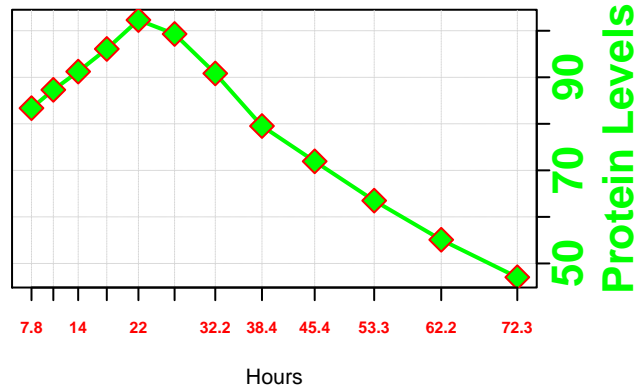
beta-alanine biosynthesis

mRNA Levels

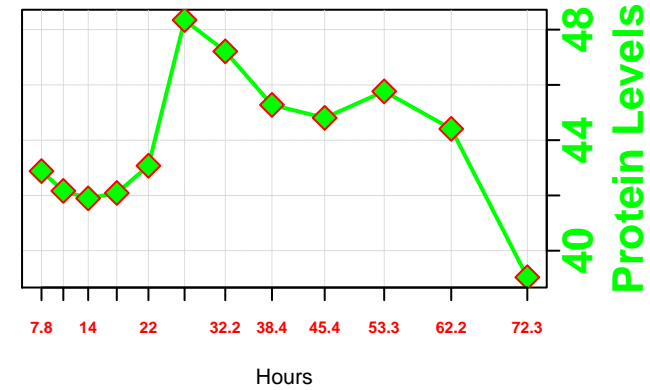
3737: FMS1
YMR020W
ORF



3860: ALD3
YMR169C
ORF

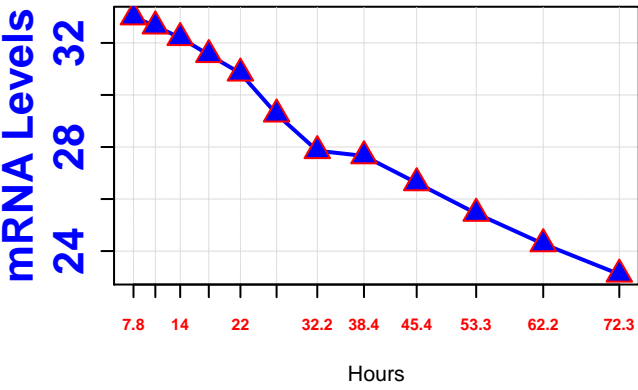


3861: ALD2
YMR170C
ORF

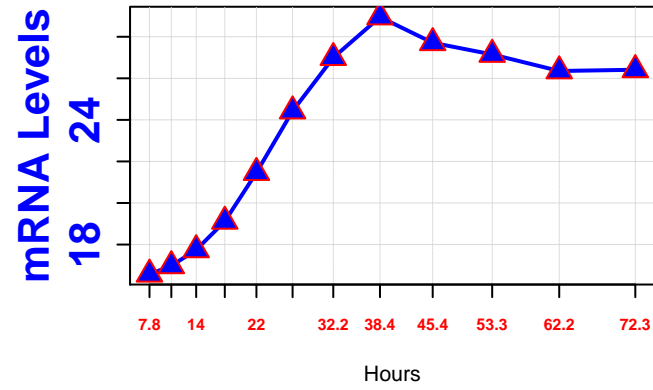


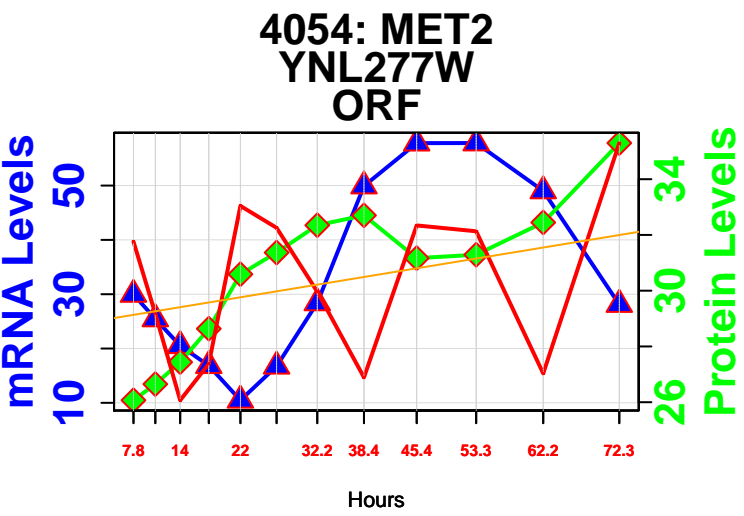
p-aminobenzoate biosynthesis

3968: ABZ2
YMR289W
ORF



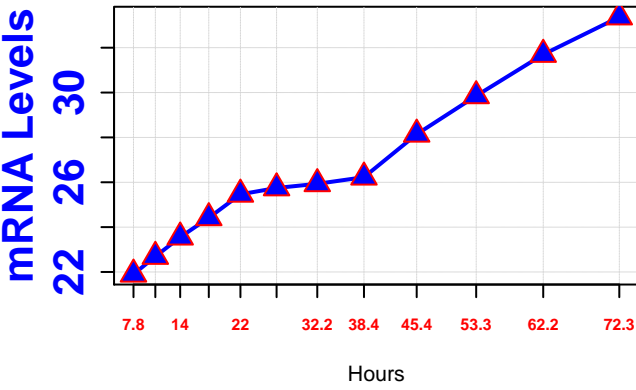
4316: ABZ1
YNR033W
ORF



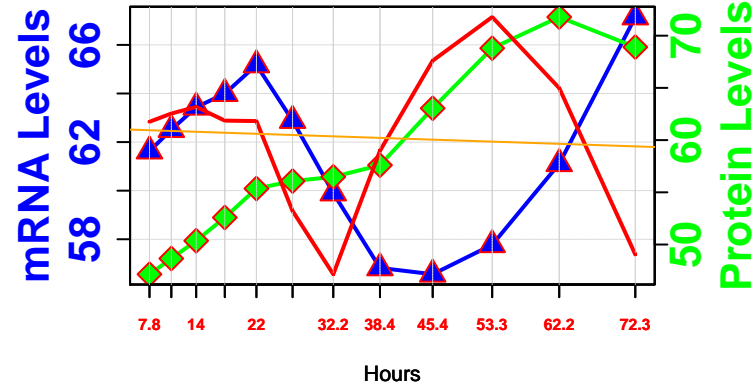


nicotinate riboside salvage pathway I

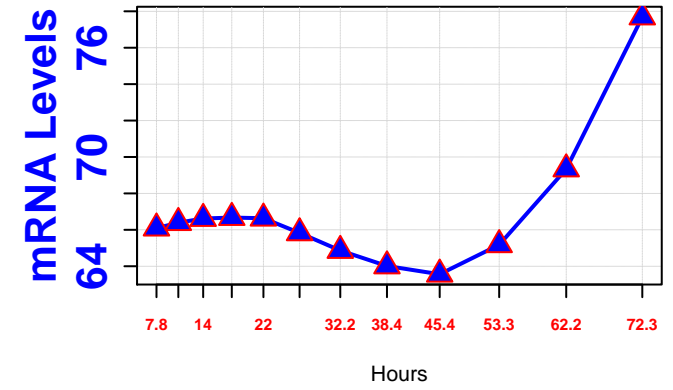
1177: URH1
YDR400W
ORF



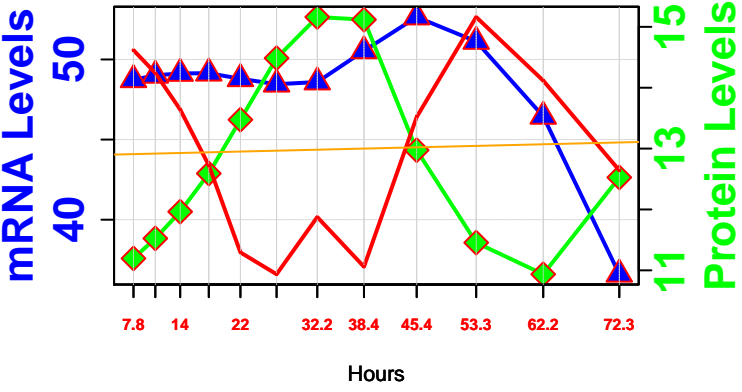
3377: PNP1
YLR209C
ORF



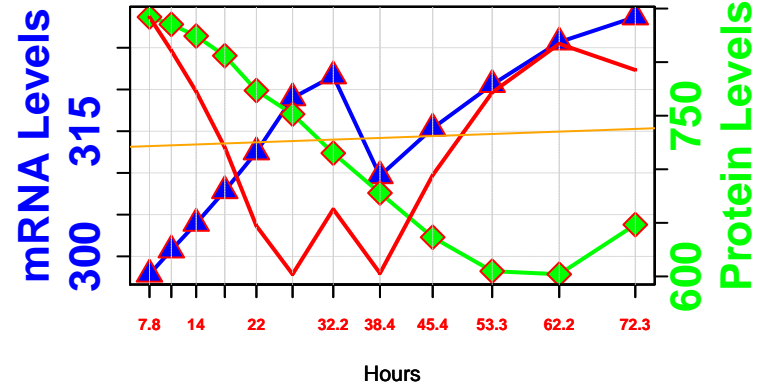
4181: NRK1
YNL129W
ORF

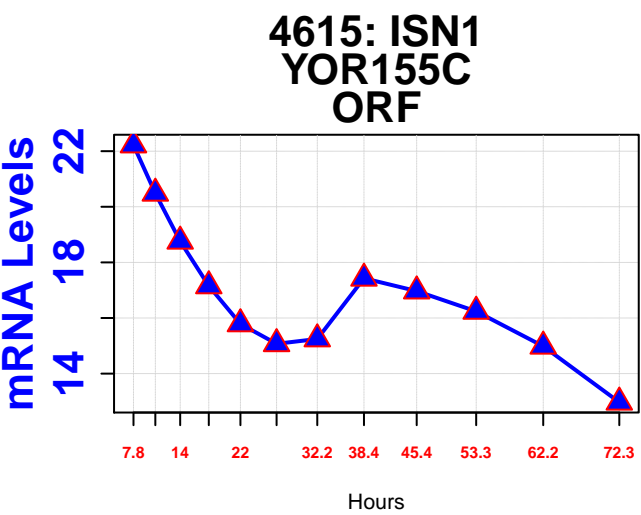


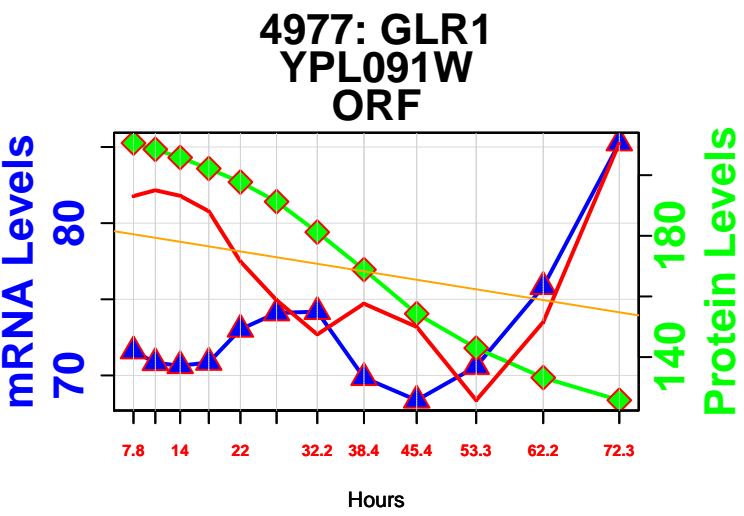
4436: SPE2
YOL052C
ORF

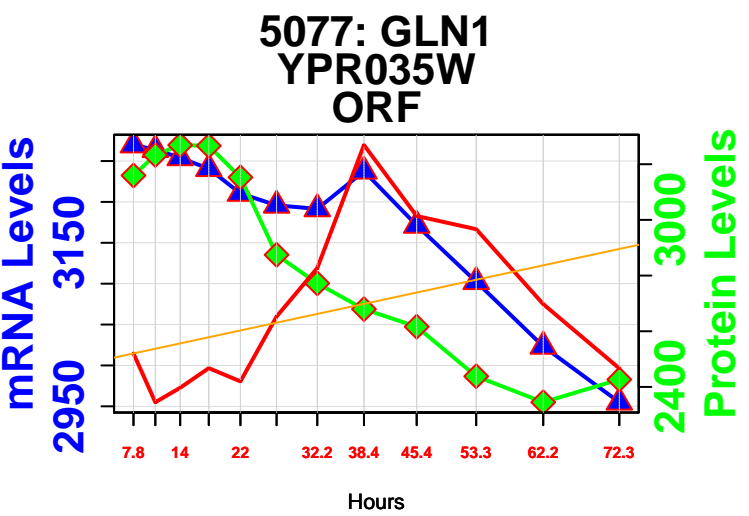


5108: SPE3
YPR069C
ORF

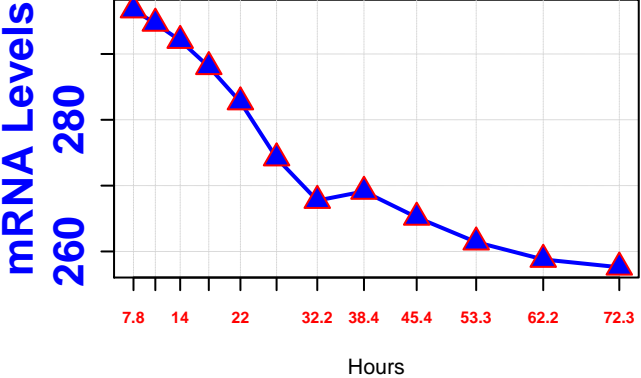






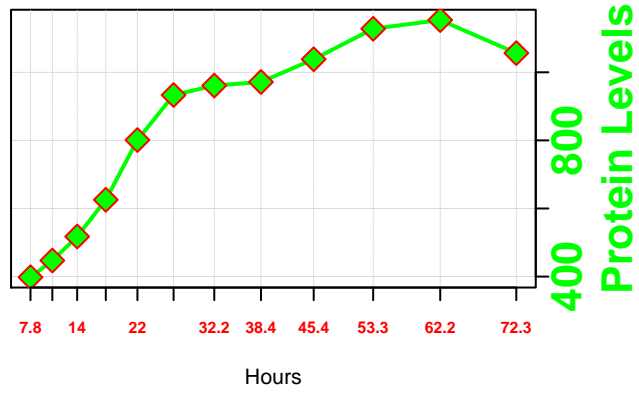


5146: PIS1
YPR113W
ORF



glycogen catabolism

5190: GPH1
YPR160W
ORF



5216: GDB1
YPR184W
ORF

