

Table 1. 157 iron-related *P.yoelii yoelii* 17X genes

Gene ID	Product Description	EC numbers from OrthoMCL
PY17X_0102500	ATP-dependent RNA helicase, putative	3.6.4.13 (RNA helicase)
PY17X_0114000	cytosolic Fe-S cluster assembly factor NAR1, putative	1.12.7.2 (Ferredoxin hydrogenase)
PY17X_0204300	transcription initiation factor TFIIB, putative	3.1.-.- (Acting on ester bonds.)
PY17X_0210900	ATP-dependent RNA helicase, putative	3.6.4.13 (RNA helicase)
PY17X_0212700	cysteine desulfurase, putative	2.8.1.7 (Cysteine desulfurase)
PY17X_0305200	iron-sulfur assembly protein, putative	N/A
PY17X_0307400	ATP-dependent RNA helicase UAP56, putative	3.6.4.13 (RNA helicase)
PY17X_0313200	DEAD/DEAH box helicase, putative	3.6.4.13 (RNA helicase)
PY17X_0315600	ATP-dependent RNA helicase DDX47, putative	3.6.4.13 (RNA helicase)
PY17X_0403500	CDGSH iron-sulfur domain-containing protein, putative	N/A
PY17X_0403800	N-ethylmaleimide-sensitive fusion protein, putative	3.6.4.6 (Vesicle-fusing ATPase)
PY17X_0415200	conserved protein, unknown function	N/A
PY17X_0420800	ATP-dependent RNA helicase DDX60, putative	3.6.4.13 (RNA helicase)

PY17X_0506800	ATP-dependent RNA helicase ROK1, putative	3.6.4.13 (RNA helicase)
PY17X_0508100	4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase (ferredoxin), putative	1.17.7.1 ((E)-4-hydroxy-3-methylbut-2- enyl-diphosphate synthase (ferredoxin))
PY17X_0508200	CDGSH iron-sulfur domain- containing protein, putative	N/A
PY17X_0509200	chromodomain-helicase-DNA- binding protein 1, putative	3.6.4.12 (DNA helicase)
PY17X_0515200	pre-mRNA-splicing factor ATP- dependent RNA helicase PRP22, putative	3.6.4.13 (RNA helicase)
PY17X_0521600	TFIIH basal transcription factor complex helicase XPB subunit, putative	3.6.4.12 (DNA helicase)
PY17X_0524300	pre-mRNA-splicing helicase BRR2, putative	3.6.4.13 (RNA helicase)
PY17X_0524500	eukaryotic initiation factor 4A-III, putative	3.6.4.13 (RNA helicase)
PY17X_0603600	ATP-dependent DNA/RNA helicase PSH2, putative	3.6.4.13 (RNA helicase)
PY17X_0607400	conserved Plasmodium protein, unknown function	N/A
PY17X_0610300	cytosolic iron-sulfur protein assembly protein 1, putative	N/A
PY17X_0612300	DNA helicase MCM8, putative	3.6.4.12 (DNA helicase)
PY17X_0612700	DNA replication licensing factor MCM5, putative	3.6.4.12 (DNA helicase)
PY17X_0615300	DEAD box ATP-dependent RNA helicase, putative	3.6.4.13 (RNA helicase)
PY17X_0616800	transcription initiation factor IIA subunit 1, putative	N/A

PY17X_0617000	cysteine desulfurase, putative	2.8.1.7 (Cysteine desulfurase)
PY17X_0620600	apoptosis-inducing factor, putative	1.18.1.2 (Ferredoxin--NADP(+) reductase)
PY17X_0621500	ATP-dependent RNA helicase DBP7, putative	3.6.4.13 (RNA helicase)
PY17X_0623500	conserved protein, unknown function	N/A
PY17X_0701600	prolyl 4-hydroxylase subunit alpha, putative	1.14.11.2 (Procollagen-proline 4- dioxygenase)
PY17X_0704000	ATP-dependent RNA helicase DBP10, putative	3.6.4.13 (RNA helicase)
PY17X_0706300	Fe-S cluster assembly protein DRE2, putative	N/A
PY17X_0709700	ATP-dependent RNA helicase DHX36, putative	3.6.4.13 (RNA helicase)
PY17X_0711000	Snf2-related CBP activator, putative	3.6.4.12 (DNA helicase)
PY17X_0712300	DNA helicase, putative	3.6.4.12 (DNA helicase)
PY17X_0715800	26S protease regulatory subunit 6B, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_0718500	DNA helicase MCM9, putative	3.6.4.12 (DNA helicase)
PY17X_0803500	cytosolic iron-sulfur assembly component 2, putative	N/A
PY17X_0805800	DNA replication licensing factor MCM7, putative	3.6.4.12 (DNA helicase)
PY17X_0806000	RNA helicase, putative	3.6.4.13 (RNA helicase)

PY17X_0811300	6-cysteine protein	N/A
PY17X_0814400	helicase SKI2W, putative	3.6.4.13 (RNA helicase)
PY17X_0815200	cytosolic Fe-S cluster assembly factor NBP35, putative	3.6.1.3 (Adenosinetriphosphatase)
PY17X_0821900	pre-mRNA-splicing factor ATP-dependent RNA helicase PRP43, putative	3.6.4.13 (RNA helicase)
PY17X_0822800	ATP-dependent DNA helicase Q1, putative	3.6.4.12 (DNA helicase)
PY17X_0824300	chaperone, putative	N/A
PY17X_0825600	NifU-like scaffold protein, putative	N/A
PY17X_0833100	transcription initiation factor TFIID subunit 7, putative	N/A
PY17X_0835100	NifU-like protein, putative	N/A
PY17X_0838300	TFIIH basal transcription factor complex helicase XPD subunit, putative	3.6.4.12 (DNA helicase)
PY17X_0905800	transcription initiation factor IIF subunit beta, putative	3.6.4.12 (DNA helicase)
PY17X_0912300	sporozoite surface protein essential for liver stage development, putative	N/A
PY17X_0919400	26S protease regulatory subunit 6A, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_0921800	Fe-S cluster assembly protein, putative	3.6.1.3 (Adenosinetriphosphatase)
PY17X_0935500	rhomboid protease ROM1, putative	3.4.21.105 (Rhomboid protease)

PY17X_0937000	ATPase, putative	3.6.4.12 (DNA helicase)
PY17X_0942700	DNA replication ATP-dependent helicase/nuclease DNA2, putative	3.6.4.12 (DNA helicase)
PY17X_0942800	DEAD/DEAH box helicase, putative	3.6.4.13 (RNA helicase)
PY17X_0943400	RuvB-like helicase 2, putative	3.6.4.12 (DNA helicase)
PY17X_0945200	chromatin remodeling protein, putative	3.6.4.- (Acting on ATP; involved in cellular and subcellular movement.)
PY17X_0946000	FeS cluster assembly protein SufD, putative	N/A
PY17X_1004100	ATP-dependent RNA helicase DDX51, putative	3.6.4.13 (RNA helicase)
PY17X_1006900	AAA family ATPase, putative	3.6.4.3 (Transferred entry: 5.6.1.1)
PY17X_1011100	glutamate synthase [NADH], putative	1.4.1.14 (Glutamate synthase (NADH))
PY17X_1011900	dynein-related AAA-type ATPase, putative	3.6.4.2 (Transferred entry: 5.6.1.2)
PY17X_1016200	conserved protein, unknown function	N/A
PY17X_1016300	ADP-dependent DNA helicase RecQ, putative	3.6.4.12 (DNA helicase)
PY17X_1020600	DEAD/DEAH box helicase, putative	3.6.4.13 (RNA helicase)
PY17X_1026000	ATP-dependent rRNA helicase SPB4, putative	3.6.4.13 (RNA helicase)
PY17X_1026200	ATP-dependent RNA helicase DBP4, putative	3.6.4.13 (RNA helicase)

PY17X_1027300	DNA replication licensing factor MCM2, putative	3.6.4.12 (DNA helicase)
PY17X_1031600	FeS assembly ATPase SufC, putative	N/A
PY17X_1036500	FANCI-like helicase, putative	3.6.4.12 (DNA helicase)
PY17X_1037700	radical SAM protein, putative	2.1.1.- (Methyltransferases.)
PY17X_1104900	ATP-dependent RNA helicase DDX27, putative	3.6.4.13 (RNA helicase)
PY17X_1105100	ATP-dependent helicase, putative	3.6.4.13 (RNA helicase)
PY17X_1105700	MMS19-like protein, putative	N/A
PY17X_1109400	pre-mRNA-processing ATP- dependent RNA helicase PRP5, putative	3.6.4.13 (RNA helicase)
PY17X_1112100	conserved Plasmodium protein, unknown function	N/A
PY17X_1114900	ATP-dependent DNA helicase UvrD, putative	3.6.4.12 (DNA helicase)
PY17X_1119700	cell division cycle protein 48 homologue, putative	3.6.4.6 (Vesicle-fusing ATPase)
PY17X_1122500	radical SAM protein, putative	2.-.-.- (Transferases.)
PY17X_1123800	superoxide dismutase [Fe], putative	1.15.1.1 (Superoxide dismutase)
PY17X_1124000	ATP-dependent RNA helicase SUV3, putative	3.6.4.13 (RNA helicase)
PY17X_1124900	SNF2 helicase, putative	3.6.4.12 (DNA helicase)

PY17X_1131100	ATP-dependent RNA helicase HAS1, putative	3.6.4.13 (RNA helicase)
PY17X_1133000	DNA replication licensing factor MCM6, putative	3.6.4.12 (DNA helicase)
PY17X_1135300	DNA helicase, putative	3.6.4.12 (DNA helicase)
PY17X_1139000	Fe-S assembly protein IscX, putative	N/A
PY17X_1139600	RuvB-like helicase 3, putative	3.6.4.12 (DNA helicase)
PY17X_1141600	pre-mRNA-splicing factor ATP- dependent RNA helicase PRP16, putative	3.6.4.13 (RNA helicase)
PY17X_1145400	ABC transporter E family member 1, putative	N/A
PY17X_1206900	regulator of nonsense transcripts 1, putative	3.6.4.- (Acting on ATP; involved in cellular and subcellular movement.)
PY17X_1209800	26S protease regulatory subunit 4, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_1211800	DNA2/NAM7 helicase, putative	3.6.4.12 (DNA helicase)
PY17X_1213100	conserved protein, unknown function	N/A
PY17X_1219200	iron-sulfur assembly protein, putative	N/A
PY17X_1220100	ATP-dependent RNA helicase DDX42, putative	3.6.4.13 (RNA helicase)
PY17X_1220900	ATP-dependent RNA helicase DDX6, putative	3.6.4.13 (RNA helicase)
PY17X_1222400	Cg8 protein, putative	3.6.4.13 (RNA helicase)

PY17X_1222700	chloroquine resistance transporter, putative	N/A
PY17X_1224800	cell division cycle ATPase, putative	3.6.4.6 (Vesicle-fusing ATPase)
PY17X_1226700	DNA helicase PSH3, putative	3.6.4.13 (RNA helicase)
PY17X_1230300	DNA repair and recombination protein RAD54, putative	3.6.4.12 (DNA helicase)
PY17X_1233000	endonuclease III-like protein 1, putative	4.2.99.18 (DNA-(apurinic or apyrimidinic site) lyase)
PY17X_1236700	ATP-dependent RNA helicase DDX23, putative	3.6.4.13 (RNA helicase)
PY17X_1239700	ATP-dependent RNA helicase DDX1, putative	3.6.4.13 (RNA helicase)
PY17X_1240200	transcription initiation factor TFIID subunit 10, putative	N/A
PY17X_1240700	iron-sulfur assembly protein, putative	N/A
PY17X_1242900	S-adenosyl-L-methionine-dependent tRNA 4-demethylwyosine synthase, putative	4.1.3.44 (tRNA 4-demethylwyosine synthase (AdoMet-dependent))
PY17X_1245000	DNA replication licensing factor MCM3, putative	3.6.4.12 (DNA helicase)
PY17X_1245900	ATP-dependent RNA helicase DDX41, putative	3.6.4.13 (RNA helicase)
PY17X_1306800	DEAD/DEAH box helicase, putative	3.6.4.13 (RNA helicase)
PY17X_1307100	cytochrome b-c1 complex subunit Rieske, putative	1.10.2.2 (Transferred entry: 7.1.1.8)
PY17X_1312800	ATP-dependent RNA helicase MAK5, putative	3.6.4.13 (RNA helicase)

PY17X_1313500	ATP-dependent RNA helicase DDX5, putative	3.6.4.13 (RNA helicase)
PY17X_1316500	gamete egress and sporozoite traversal protein, putative	N/A
PY17X_1322000	iron sulfur cluster assembly protein, putative	N/A
PY17X_1326500	ATP-dependent RNA helicase DBP5, putative	3.6.4.13 (RNA helicase)
PY17X_1336600	eukaryotic initiation factor 4a, putative	3.6.4.13 (RNA helicase)
PY17X_1342400	conserved Plasmodium protein, unknown function	N/A
PY17X_1344400	DEAD box helicase, putative	3.6.4.12 (DNA helicase)
PY17X_1350900	DNA polymerase theta, putative	3.6.4.13 (RNA helicase)
PY17X_1352500	ATP-dependent RNA helicase DBP8, putative	3.6.4.13 (RNA helicase)
PY17X_1360900	aconitate hydratase, putative	4.2.1.3 (Aconitate hydratase)
PY17X_1362100	DNA repair protein RAD5, putative	3.6.4.- (Acting on ATP; involved in cellular and subcellular movement.)
PY17X_1363200	lipoyl synthase, putative	2.8.1.8 (Lipoyl synthase)
PY17X_1402800	ATP-dependent RNA helicase DHR1, putative	3.6.4.13 (RNA helicase)
PY17X_1406600	26S protease regulatory subunit 10B, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_1407500	ATP-dependent RNA helicase DBP6, putative	3.6.4.13 (RNA helicase)

PY17X_1411300	protein ISD11, putative	2.8.1.7 (Cysteine desulfurase)
PY17X_1411800	26S protease regulatory subunit 7, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_1417300	DNA replication licensing factor MCM4, putative	3.6.4.12 (DNA helicase)
PY17X_1418300	ferredoxin, putative	N/A
PY17X_1424700	superoxide dismutase [Fe], putative	1.15.1.1 (Superoxide dismutase)
PY17X_1424800	conserved Plasmodium protein, unknown function	N/A
PY17X_1425200	AAA family ATPase, putative	3.6.4.6 (Vesicle-fusing ATPase)
PY17X_1427200	sporozoite surface protein 3	N/A
PY17X_1429000	ATP-dependent RNA helicase DBP1, putative	3.6.4.13 (RNA helicase)
PY17X_1429800	RuvB-like helicase 1, putative	3.6.4.12 (DNA helicase)
PY17X_1430900	succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial, putative	1.3.5.1 (Succinate dehydrogenase (quinone))
PY17X_1431400	kelch domain-containing protein, putative	N/A
PY17X_1432600	adrenodoxin-type ferredoxin, putative	N/A
PY17X_1441100	vacuolar iron transporter, putative	N/A
PY17X_1444400	DNA helicase 60, putative	3.6.4.13 (RNA helicase)

PY17X_1445000	elongator complex protein 3, putative	2.3.1.48 (Histone acetyltransferase)
PY17X_1448800	pre-mRNA-splicing factor ATP-dependent RNA helicase PRP2, putative	3.6.4.13 (RNA helicase)
PY17X_1457700	ATP-dependent RNA helicase DBP9, putative	3.6.4.13 (RNA helicase)
PY17X_1460500	conserved protein, unknown function	N/A
PY17X_1464400	26S protease regulatory subunit 8, putative	3.6.4.8 (Transferred entry: 5.6.1.5)
PY17X_1466200	transcription initiation factor IIA subunit 2, putative	N/A
PY17X_1466300	DNA repair protein, putative	3.6.4.- (Acting on ATP; involved in cellular and subcellular movement.)
PY17X_1467000	ATP-dependent RNA helicase DRS1, putative	3.6.4.13 (RNA helicase)
PY17X_API0010	FeS cluster assembly protein SufB, pu	3.1.-.- (Acting on ester bonds.)

Table 2. 79 haem-related *P.yoelii yoelii* 17X genes

Gene ID	Product Description	EC numbers from OrthoMCL
PY17X_1213500	heme oxygenase, putative	1.14.14.18 (Heme oxygenase (biliverdin-producing))
PY17X_0107400	uroporphyrinogen III decarboxylase, putative	4.1.1.37 (Uroporphyrinogen decarboxylase)
PY17X_0605100	cytochrome c1 heme lyase, putative	4.4.1.17 (Holocytochrome-c synthase)
PY17X_1017500	heme/steroid binding domain containing protein, putative	N/A
PY17X_1442000	cytochrome c heme lyase, putative	4.4.1.17 (Holocytochrome-c synthase)
PY17X_0822400	cytochrome b5, putative	1.6.2.2 (Cytochrome-b5 reductase)
PY17X_0908000	coproporphyrinogen-III oxidase, putative	1.3.3.3 (Coproporphyrinogen oxidase)
PY17X_1142100	ferrochelatase, putative	4.99.1.1 (Protoporphyrin ferrochelatase)
PY17X_1307900	porphobilinogen synthase, putative	4.2.1.24 (Porphobilinogen synthase)
PY17X_1314400	heme detoxification protein, putative	4.99.1.8 (Heme ligase)
PY17X_1449500	cytochrome b5, putative	N/A
PY17X_MIT00100	cytochrome c oxidase subunit 3	1.9.3.1 (Cytochrome-c oxidase)
PY17X_0204300	transcription initiation factor TFIIB, putative	3.1.-.- (Acting on ester bonds.)
PY17X_0304600	pentafunctional AROM polypeptide, putative	N/A
PY17X_0415200	conserved protein, unknown function	N/A
PY17X_0508500	orotidine 5'-phosphate decarboxylase, putative	2.4.2.10 (Orotate phosphoribosyltransferase)
PY17X_0513300	protoporphyrinogen oxidase, putative	1.3.3.4 (Protoporphyrinogen oxidase)
PY17X_0518000	S-adenosylmethionine decarboxylase/ornithine decarboxylase	4.1.1.17 (Ornithine decarboxylase)
PY17X_0523800	steroid dehydrogenase, putative	1.1.1.- (With NAD(+) or NADP(+) as acceptor.)

PY17X_0607400	conserved Plasmodium protein, unknown function	N/A
PY17X_0610500	porphobilinogen deaminase, putative	2.5.1.61 (Hydroxymethylbilane synthase)
PY17X_0616800	transcription initiation factor IIA subunit 1, putative	N/A
PY17X_0623500	conserved protein, unknown function	N/A
PY17X_0714900	phosphopantothoenoylcysteine decarboxylase	4.1.1.36 (Phosphopantothoenoylcysteine decarboxylase)
PY17X_0715900	lysine decarboxylase-like protein, putative	4.1.1.18 (Lysine decarboxylase)
PY17X_0811300	6-cysteine protein	N/A
PY17X_0825000	inosine-5'-monophosphate dehydrogenase, putative	1.1.1.205 (IMP dehydrogenase)
PY17X_0827100	3-oxoacyl-[acyl-carrier-protein] reductase	1.1.1.100 (3-oxoacyl-[acyl-carrier- protein] reductase)
PY17X_0832000	phosphatidylserine decarboxylase, putative	4.1.1.65 (Phosphatidylserine decarboxylase)
PY17X_0833100	transcription initiation factor TFIID subunit 7, putative	N/A
PY17X_0905800	transcription initiation factor IIF subunit beta, putative	3.6.4.12 (DNA helicase)
PY17X_0912300	sporozoite surface protein essential for liver stage development putative	N/A
PY17X_0914200	3-oxo-5-alpha-steroid 4- dehydrogenase, putative	1.3.99.5 (3-oxo-5-alpha-steroid 4- dehydrogenase (acceptor))
PY17X_0934900	glycerol-3-phosphate dehydrogenase	1.1.1.8 (Glycerol-3-phosphate dehydrogenase (NAD(+)))
PY17X_0935500	rhomboid protease ROM1, putative	3.4.21.105 (Rhomboid protease)
PY17X_1004800	lysine decarboxylase, putative	4.1.1.18 (Lysine decarboxylase)
PY17X_1008500	NAD(P)-binding protein, putative	1.1.1.102 (3-dehydrosphinganine reductase)
PY17X_1011400	cytochrome c oxidase assembly protein COX15, putative	1.9.3.1 (Cytochrome-c oxidase)
PY17X_1016200	conserved protein, unknown function	N/A
PY17X_1019200	cytochrome b-c1 complex subunit 6, putative	1.10.2.2 (Transferred entry: 7.1.1.8)

PY17X_1019400	phosphoenolpyruvate carboxylase, putative	4.1.1.31 (Phosphoenolpyruvate carboxylase)
PY17X_1035800	aldo-keto reductase, putative	1.1.1.21 (Aldehyde reductase)
PY17X_1040400	cytochrome c, putative	N/A
PY17X_1112100	conserved Plasmodium protein, unknown function	N/A
PY17X_1118800	malate dehydrogenase, putative	1.1.1.27 (L-lactate dehydrogenase)
PY17X_1122900	cytochrome b-c1 complex subunit 9, putative	1.10.2.2 (Transferred entry: 7.1.1.8)
PY17X_1126300	oxidoreductase, putative	1.1.1.36 (Acetoacetyl-CoA reductase)
PY17X_1135000	glutamate--tRNA ligase, putative	6.1.1.17 (Glutamate--tRNA ligase)
PY17X_1141900	aldehyde reductase, putative	1.1.1.21 (Aldehyde reductase)
PY17X_1213100	conserved protein, unknown function	N/A
PY17X_1215600	GDP-L-fucose synthase, putative	1.1.1.271 (GDP-L-fucose synthase)
PY17X_1237500	protoheme IX farnesyltransferase, putative	2.5.1.- (Transferring alkyl or aryl groups, other than methyl groups.)
PY17X_1240200	transcription initiation factor TFIID subunit 10, putative	N/A
PY17X_1242900	S-adenosyl-L-methionine-dependent tRNA 4-demethylwyosine synthase	4.1.3.44 (tRNA 4-demethylwyosine synthase (AdoMet-dependent))
PY17X_1308000	stromal-processing peptidase, putative	4.2.1.24 (Porphobilinogen synthase)
PY17X_1312300	shikimate dehydrogenase, putative	1.1.1.25 (Shikimate dehydrogenase)
PY17X_1316500	gamete egress and sporozoite traversal protein, putative	N/A
PY17X_1321300	glucose-6-phosphate dehydrogenase-6-phosphogluconolactonase	1.1.1.49 (Glucose-6-phosphate dehydrogenase (NADP(+))) 1.1.1.44 (Phosphogluconate
PY17X_1322200	dehydrogenase, decarboxylating, putative	dehydrogenase (NADP(+)-dependent, decarboxylating))
PY17X_1325900	aminodeoxychorismate lyase, putative	4.1.3.38 (Aminodeoxychorismate lyase)
PY17X_1330100	cytochrome c1 precursor, putative	N/A

PY17X_1335300	1-deoxy-D-xylulose 5-phosphate reductoisomerase, putative	1.1.1.267 (1-deoxy-D-xylulose-5-phosphate reductoisomerase)
PY17X_1342400	conserved Plasmodium protein, unknown function	N/A
PY17X_1344800	L-lactate dehydrogenase, putative	1.1.1.27 (L-lactate dehydrogenase)
PY17X_1345100	lactate dehydrogenase, putative	1.1.1.27 (L-lactate dehydrogenase)
PY17X_1361600	phosphoenolpyruvate carboxykinase, putative	4.1.1.49 (Phosphoenolpyruvate carboxykinase (ATP))
PY17X_1364300	isocitrate dehydrogenase [NADP], mitochondrial, putative	1.1.1.42 (Isocitrate dehydrogenase (NADP(+)))
PY17X_1367700	glutamate--tRNA ligase, putative	6.1.1.17 (Glutamate--tRNA ligase)
PY17X_1412000	cytochrome c, putative	N/A
PY17X_1424800	conserved Plasmodium protein, unknown function	N/A
PY17X_1427200	sporozoite surface protein 3	N/A
PY17X_1431400	kelch domain-containing protein, putative	N/A
PY17X_1434200	glycerol-3-phosphate dehydrogenase [NAD(+)], putative	1.1.1.8 (Glycerol-3-phosphate dehydrogenase (NAD(+)))
PY17X_1436600	arginine--tRNA ligase, putative	6.1.1.19 (Arginine--tRNA ligase)
PY17X_1460500	conserved protein, unknown function	N/A
PY17X_1461800	delta-aminolevulinic acid synthetase, putative	2.3.1.37 (5-aminolevulinate synthase)
PY17X_1466200	transcription initiation factor IIA subunit 2, putative	N/A
PY17X_MIT00800	cytochrome c oxidase subunit 1	1.9.3.1 (Cytochrome-c oxidase)
PY17X_MIT00900	cytochrome b	1.10.2.2 (Transferred entry: 7.1.1.8)

Table 3. 141 Calcium-related *P.yoelii yoelii* 17X genes

Gene ID	Product Description	EC numbers from OrthoMCL
PY17X_0103900	cation/H ⁺ antiporter, putative	N/A
PY17X_0104200	centrosomal protein CEP76, putative	N/A
PY17X_0105600	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0105700	calcium-binding protein, putative	N/A
PY17X_0204300	transcription initiation factor TFIIB, putative	3.1.-.- (Acting on ester bonds.)
PY17X_0204500	phosphatidylinositol-4-phosphate 5-kinase, putative	2.7.1.68 (1-phosphatidylinositol-4-phosphate 5-kinase)
PY17X_0207200	eukaryotic translation initiation factor 2-alpha kinase 2, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0207700	centrin-1, putative	N/A
PY17X_0208200	conserved Plasmodium protein, unknown function	N/A
PY17X_0208400	calcium-transporting ATPase, putative	3.6.3.8 (Transferred entry: 7.2.2.10)
PY17X_0208500	EF hand domain-containing protein, putative	N/A

PY17X_0213300	cation transporting ATPase, putative	3.6.3.12 (Transferred entry: 7.2.2.6)
PY17X_0309100	tyrosine kinase-like protein, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0310800	protein kinase 7	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0311900	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0314700	calcium-dependent protein kinase 1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0403300	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0405000	EH domain-containing protein, putative	N/A
PY17X_0409800	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0410700	calcium-dependent protein kinase 3	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0411900	kinase-related protein PKRP, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0415200	conserved protein, unknown function	N/A
PY17X_0419300	copper-transporting ATPase, putative	3.6.3.- (Acting on acid anhydrides; catalyzing transmembrane movement of substances.)
PY17X_0503500	serine/threonine protein phosphatase 8, putative	3.1.3.16 (Protein-serine/threonine phosphatase)

PY17X_0504800	conserved Plasmodium protein, unknown function	N/A
PY17X_0510300	EF-hand calcium-binding domain- containing protein, putative	N/A
PY17X_0512900	centrin-3, putative	N/A
PY17X_0515800	calmodulin, putative	N/A
PY17X_0516200	MORN repeat-containing protein 1, putative	2.7.1.68 (1-phosphatidylinositol-4- phosphate 5-kinase)
PY17X_0522800	serine/threonine protein kinase RIO2, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0603200	NIMA related kinase 3, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0607400	conserved Plasmodium protein, unknown function	N/A
PY17X_0612900	non-SERCA-type Ca ²⁺ -transporting P-ATPase, putative	3.6.3.8 (Transferred entry: 7.2.2.10)
PY17X_0616800	transcription initiation factor IIA subunit 1, putative	N/A
PY17X_0617900	calcium-dependent protein kinase 4, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0618500	exported serine/threonine protein kinase	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0619400	NIMA related kinase 4	2.7.11.1 (Non-specific serine/threonine protein kinase)

PY17X_0621700	conserved Plasmodium protein, unknown function	N/A
PY17X_0623500	conserved protein, unknown function	N/A
PY17X_0624800	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0709900	protein kinase 1	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0713500	histidine triad nucleotide-binding protein 1, putative	3.-.-.- (Hydrolases.)
PY17X_0714600	EF-hand calcium-binding domain- containing protein, putative	N/A
PY17X_0716400	calmodulin-like protein, putative	N/A
PY17X_0720200	protein SOC1, putative	N/A
PY17X_0803300	centrin, putative	N/A
PY17X_0804900	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0808700	EKC/KEOPS complex subunit BUD32, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0809500	P-type ATPase, putative	3.6.3.1 (Transferred entry: 7.6.2.1)
PY17X_0811300	6-cysteine protein	N/A

PY17X_0822300	glideosome-associated protein 50, putative	3.1.3.2 (Acid phosphatase)
PY17X_0830100	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0830200	protein kinase, putative	2.7.10.2 (Non-specific protein-tyrosine kinase)
PY17X_0830400	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0832900	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0833100	transcription initiation factor TFIID subunit 7, putative	N/A
PY17X_0902500	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0905200	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0905800	transcription initiation factor IIF subunit beta, putative	3.6.4.12 (DNA helicase)
PY17X_0911700	guanylyl cyclase, putative	4.6.1.2 (Guanylate cyclase)
PY17X_0912300	sporozoite surface protein essential for liver stage development, putative	N/A
PY17X_0912400	calcium-binding protein, putative	N/A
PY17X_0913600	casein kinase 1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)

PY17X_0920300	phosphatidylinositol-4-phosphate 5-kinase, putative	2.7.1.68 (1-phosphatidylinositol-4-phosphate 5-kinase)
PY17X_0927200	calcium-dependent protein kinase 7	2.7.11.17 (Calcium/calmodulin-dependent protein kinase)
PY17X_0927500	calcium-dependent protein kinase 6	2.7.11.17 (Calcium/calmodulin-dependent protein kinase)
PY17X_0928400	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0935000	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0935500	rhomboid protease ROM1, putative	3.4.21.105 (Rhomboid protease)
PY17X_0939500	conserved Plasmodium protein, unknown function	N/A
PY17X_0940900	endoplasmic reticulum-resident calcium binding protein, putative	N/A
PY17X_0941100	casein kinase 2, alpha subunit, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_0943900	centrin-4, putative	N/A
PY17X_0944500	calcium/calmodulin-dependent protein kinase, putative	2.7.11.17 (Calcium/calmodulin-dependent protein kinase)
PY17X_0945700	casein kinase II beta chain, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1012200	calmodulin, putative	N/A

PY17X_1012500	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1016200	conserved protein, unknown function	N/A
PY17X_1017600	peptide chain release factor 1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1017700	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1021700	calcium-dependent protein kinase, putative	2.7.11.17 (Calcium/calmodulin-dependent protein kinase)
PY17X_1022000	serine/threonine protein phosphatase 7, putative	3.1.3.16 (Protein-serine/threonine phosphatase)
PY17X_1026800	calmodulin, putative	N/A
PY17X_1028100	inner membrane complex protein 1l, putative	N/A
PY17X_1028900	metacaspase-3, putative	N/A
PY17X_1104700	cation transporting P-ATPase, putative	3.6.3.12 (Transferred entry: 7.2.2.6)
PY17X_1112100	conserved Plasmodium protein, unknown function	N/A
PY17X_1128400	eukaryotic translation initiation factor 2-alpha kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1132700	conserved Plasmodium protein, unknown function	N/A

PY17X_1132800	metacaspase-1, putative	3.4.22.- (Cysteine endopeptidases.)
PY17X_1134600	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1138200	guanylyl cyclase beta	4.6.1.2 (Guanylate cyclase)
PY17X_1139700	transmembrane and coiled-coil domain-containing protein 1, putative	N/A
PY17X_1139800	calpain, putative	3.4.22.- (Cysteine endopeptidases.)
PY17X_1212000	MORN repeat protein, putative	2.7.1.68 (1-phosphatidylinositol-4-phosphate 5-kinase)
PY17X_1213100	conserved protein, unknown function	N/A
PY17X_1215100	phosphoinositide-specific phospholipase C	3.1.4.11 (Phosphoinositide phospholipase C)
PY17X_1227600	ferlin-like protein, putative	N/A
PY17X_1228200	serine/threonine protein kinase, FIKK family	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1240200	transcription initiation factor TFIID subunit 10, putative	N/A
PY17X_1243900	NIMA related kinase 2	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1308300	protein SOC3, putative	N/A

PY17X_1309000	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1310700	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1311900	calmodulin-like protein	N/A
PY17X_1312200	eukaryotic translation initiation factor 2-alpha kinase 1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1314200	centrin-2, putative	N/A
PY17X_1316500	gamete egress and sporozoite traversal protein, putative	N/A
PY17X_1319200	calcineurin subunit B, putative	N/A
PY17X_1321800	SNF1-related serine/threonine protein kinase KIN, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1323100	ferlin, putative	N/A
PY17X_1331500	EF-hand calcium-binding domain-containing protein, putative	N/A
PY17X_1333600	potassium channel K2, putative	N/A
PY17X_1342400	conserved Plasmodium protein, unknown function	N/A
PY17X_1349500	apicoplast calcium binding protein 1, putative	N/A

PY17X_1356700	calcium-dependent protein kinase 5	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1357800	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1361200	casein kinase II beta chain, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1367300	E1-E2 ATPase, putative	N/A
PY17X_1407600	conserved Plasmodium protein, unknown function	N/A
PY17X_1415300	serine/threonine protein kinase PK9, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1416200	protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1422700	calmodulin, putative	N/A
PY17X_1423600	calcium/calmodulin-dependent protein kinase, putative	2.7.11.17 (Calcium/calmodulin-dependent protein kinase)
PY17X_1424800	conserved Plasmodium protein, unknown function	N/A
PY17X_1427200	sporozoite surface protein 3	N/A
PY17X_1431400	kelch domain-containing protein, putative	N/A
PY17X_1437200	aminophospholipid-transporting P-ATPase, putative	3.6.3.1 (Transferred entry: 7.6.2.1)

PY17X_1437300	raf kinase inhibitor, putative	N/A
PY17X_1440100	glideosome-associated protein 45, putative	N/A
PY17X_1440800	phospholipid-transporting ATPase, putative	3.6.3.1 (Transferred entry: 7.6.2.1)
PY17X_1444700	protein SOC2, putative	N/A
PY17X_1445500	NIMA related kinase 1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1448100	serine/threonine protein kinase RIO1, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1459700	double C2-like domain-containing protein, putative	N/A
PY17X_1460500	conserved protein, unknown function	N/A
PY17X_1462100	myosin A tail domain interacting protein	N/A
PY17X_1462600	rac-beta serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1463100	serine/threonine protein kinase, putative	2.7.11.1 (Non-specific serine/threonine protein kinase)
PY17X_1465700	CSC1-like protein, putative	N/A
PY17X_1466200	transcription initiation factor IIA subunit 2, putative	N/A
