

Table S1. List of Apicomplexa genomes used in this work.

Organism	Strain	Genome assembly (Mb)	Version	Source
<i>Ascogregarina taiwanensis</i>	Taoyuan-1	6.15	GCA_000172235.1	GenBank
<i>Babesia bigemina</i>	Bond	13.84	GCA_000981445.1	GenBank
<i>Babesia bovis</i>	T2Bo	8.18	GCA_000165395.1	GenBank
<i>Babesia divergens</i>	Rouen 1987	9.73	GCA_001077455.2	GenBank
<i>Babesia microti</i>	RI	6.47	GCA_000691945.2	GenBank
<i>Babesia ovata</i>	Miyake	14.45	GCA_002897235.1	GenBank
<i>Besnoitia besnoiti</i>	Bb-Ger1	58.85	GCA_002563875.1	GenBank
<i>Cryptosporidium andersoni</i>	isolate: 30847	9.09	GCA_001865355.1	GenBank
<i>Cryptosporidium baileyi</i>	TAMU-09Q1	8.49	GCA_001593455.1	GenBank
<i>Cryptosporidium bovis</i>	isolate: 42482	9.11	GCA_009768925.1	GenBank
<i>Cryptosporidium cuniculus</i>	UKCU2	9.18	GCA_004337835.1	GenBank
<i>Cryptosporidium hominis</i>	UdeA01	9.07	GCA_002223825.1	GenBank
<i>Cryptosporidium meleagridis</i>	UKMEL1	8.97	GCA_001593445.1	GenBank
<i>Cryptosporidium muris</i>	RN66	9.25	GCA_000006515.1	GenBank
<i>Cryptosporidium parvum</i>	Iowa_II	9.1	GCA_000165345.1	GenBank
<i>Cryptosporidium ryanae</i>	isolate: 45019	9.06	GCA_009792415.1	GenBank
<i>Cryptosporidium tyzzeri</i>	isolate: UGA_55	9.02	GCA_007210665.1	GenBank
<i>Cryptosporidium ubiquitum</i>	isolate: 39726	8.97	GCA_001865345.1	GenBank
<i>Cryptosporidium viatorum</i>	isolate: UKVIA1	9.26	GCA_004337795.1	GenBank
<i>Cyclospora cayetanensis</i>	isolate: NF1_C8	44.36	GCA_002999335.1	GenBank
<i>Cystoisospora suis</i>	Wien I	83.64	GCA_002600585.1	GenBank
<i>Cytauxzoon felis</i>	Winnie	9.11	release-47	PiroplasmaDB
<i>Eimeria acervulina</i>	Houghton	45.83	GCA_000499425.1	GenBank
<i>Eimeria brunetti</i>	Houghton	66.89	GCA_000499725.1	GenBank
<i>Eimeria falciformis</i>	Bayer Haberkorn 1970	43.67	GCA_002271815.1	GenBank
<i>Eimeria maxima</i>	Weybridge	45.98	GCA_000499605.1	GenBank
<i>Eimeria mitis</i>	Houghton	72.24	GCA_000499745.2	GenBank
<i>Eimeria necatrix</i>	Houghton	55.01	GCA_000499385.1	GenBank
<i>Eimeria nieschulzi</i>	isolate: Landers	62.83	GCA_000826945.1	GenBank
<i>Eimeria praecox</i>	Houghton	60.08	GCA_000499445.1	GenBank
<i>Eimeria tenella</i>	Houghton	51.86	GCA_000499545.1	GenBank
<i>Gregarina niphandrodes</i>	-	14.01	GCA_000223845.4	GenBank
<i>Haemoproteus tartakovskyi</i>	SISKIN1	23.21	GCA_001625125.1	GenBank
<i>Hammondia hammondi</i>	HhCatGer041	51.5	GCA_000447165.1	GenBank

<i>Neospora caninum</i>	Liverpool	57.55	GCA_000208865.2	GenBank
<i>Plasmodium adleri</i>	G01	22.19	release-47	PlasmoDB
<i>Plasmodium berghei</i>	ANKA	18.78	GCA_900002375.2	GenBank
<i>Plasmodium billcollinsi</i>	G01	23.11	release-47	PlasmoDB
<i>Plasmodium blacklocki</i>	G01	21.84	release-47	PlasmoDB
<i>Plasmodium brasilianum</i>	Bolivian I	30.09	GCA_001885115.2	GenBank
<i>Plasmodium chabaudi chabaudi</i>	AS	18.97	GCA_900002335.2	GenBank
<i>Plasmodium coatneyi</i>	Hackeri	27.69	GCA_001680005.1	GenBank
<i>Plasmodium cynomolgi</i>	M	30.66	release-47	PlasmoDB
<i>Plasmodium falciparum</i>	3D7	23.33	GCA_000002765.3	GenBank
<i>Plasmodium fragile</i>	Nilgiri	25.91	GCA_000956335.1	GenBank
<i>Plasmodium gaboni</i>	G01	21.38	release-47	PlasmoDB
<i>Plasmodium gallinaceum</i>	8A	25.03	GCA_900005855.1	GenBank
<i>Plasmodium gonderi</i>	ATCC 30045	33.01	GCA_002157705.1	GenBank
<i>Plasmodium inui</i>	San Antonio 1	27.41	GCA_000524495.1	GenBank
<i>Plasmodium knowlesi</i>	Malayan Pk1 (A+)	24.77	GCA_002140095.1	GenBank
<i>Plasmodium malariae</i>	UG01	33.62	GCA_900090045.1	GenBank
<i>Plasmodium ovale</i>	PocGH01	33.48	GCA_900090035.2	GenBank
<i>Plasmodium praefalciparum</i>	G01	24.96	release-47	PlasmoDB
<i>Plasmodium reichenowi</i>	G01	24.47	GCA_900097025.1	GenBank
<i>Plasmodium relictum</i>	SGS1	22.61	GCA_900005765.1	GenBank
<i>Plasmodium vinckei vinckei</i>	-	18.37	GCA_900681995.1	GenBank
<i>Plasmodium vivax</i>	P01	29.04	GCA_900093555.1	GenBank
<i>Plasmodium yoelii</i>	17X	23.08	GCA_900002385.2	GenBank
<i>Sarcocystis neurona</i>	SN3	124.4	GCA_000727475.1	GenBank
<i>Theileria annulata</i>	Ankara	8.36	GCA_000003225.1	GenBank
<i>Theileria equi</i>	WA	11.67	GCA_000342415.1	GenBank
<i>Theileria orientalis</i>	Shintoku	9.01	GCA_000740895.1	GenBank
<i>Theileria parva</i>	Muguga	8.35	GCA_000165365.1	GenBank
<i>Toxoplasma gondii</i>	ME49	65.67	GCA_000006565.2	GenBank