

Table S1. Proteins unique to *C.caviae* (BSR < 0.1; $P < 1 \times 10^{-5}$) (A), *C.caviae* proteins highly conserved in other Chlamydiaceae genomes (BSR > 0.8; $P < 1 \times 10^{-5}$) (B), proteins with greater homology to *C.pneumoniae* (BSR > 0.1; $P < 1 \times 10^{-5}$) (C) and *C.caviae* proteins more similar to *Chlamydia* spp. than *C.pneumoniae* (D)

Locus	Description
(A)	
CCA00062	Conserved hypothetical protein
CCA00203	Thiamine-phosphate pyrophosphorylase
CCA00204	Hydroxyethylthiazole kinase
CCA00245	Conserved hypothetical protein
CCA00296	Conserved hypothetical protein
CCA00297	Conserved hypothetical protein
CCA00298	Exodeoxyribonuclease
CCA00306	Conserved hypothetical protein
CCA00335	Conserved hypothetical protein
CCA00351	Conserved hypothetical protein
CCA00352	Conserved hypothetical protein
CCA00353	Conserved hypothetical protein
CCA00361	Conserved hypothetical protein
CCA00389	Conserved hypothetical protein
CCA00398	Conserved hypothetical protein
CCA00425	Conserved hypothetical protein
CCA00434	Conserved hypothetical protein
CCA00500	Conserved hypothetical protein
CCA00515	Conserved hypothetical protein
CCA00526	Conserved hypothetical protein (TIGR01125)
CCA00538	Conserved hypothetical protein
CCA00559	Tryptophan synthase
CCA00563	Phosphoribosylanthranilate transferase
CCA00564	Indole-3-glycerol phosphate synthase
CCA00568	Kynureninase
CCA00569	Ribose-phosphate pyrophosphokinase
CCA00579	Conserved hypothetical protein
CCA00586	Conserved hypothetical protein
CCA00627	ABC transporter
CCA00628	Conserved hypothetical protein (TIGR00056)
CCA00636	Conserved hypothetical protein

CCA00639	Conserved hypothetical protein
CCA00647	Conserved domain protein
CCA00718	Conserved hypothetical protein
CCA00719	Short chain dehydrogenase
CCA00803	Conserved hypothetical protein
CCA00814	Conserved hypothetical protein
CCA00824	Conserved hypothetical protein
(B)	
CCA00019	ABC transporter
CCA00035	Type III secretion cytoplasmic ATPase (SctN)
CCA00040	Type III secretion protein (SctC)
CCA00048	PBP2-transglycolase/transpeptidase
CCA00073	DNA polymerase III
CCA00077	Aspartyl-tRNA synthetase
CCA00096	Ribosomal protein L2
CCA00097	Ribosomal protein S19
CCA00100	Ribosomal protein L16
CCA00103	Ribosomal protein L14
CCA00105	Ribosomal protein L5
CCA00109	Ribosomal protein S5
CCA00123	Glucose inhibited division protein A
CCA00128	DNA polymerase I
CCA00130	Transcription termination factor Rho
CCA00142	Peptide ABC transporter
CCA00178	secDF protein
CCA00191	Ribosomal protein S7
CCA00192	Translation elongation factor G
CCA00205	Polymorphic membrane protein B/C family
CCA00211	Transcriptional regulator
CCA00212	Conserved hypothetical protein (TIGR00244)
CCA00224	Serine hydroxymethyltransferase
CCA00232	Conserved hypothetical protein
CCA00240	Exoribonuclease
CCA00241	DnaK protein
CCA00268	1-4-alpha-glucan branching enzyme
CCA00301	Conserved hypothetical protein
CCA00312	Conserved hypothetical protein
CCA00315	ABC transporter
CCA00319	ATP-dependent protease La

CCA00324	2-Oxoisovalerate dehydrogenase
CCA00355	ATP-dependent Clp protease
CCA00368	Chromosomal replication initiator protein (DnaA)
CCA00374	Penicillin-binding protein
CCA00378	Integration host factor beta-subunit
CCA00380	Acetyl-CoA carboxylase
CCA00388	Enoyl-(acyl-carrier protein) reductase
CCA00404	Deoxycytidine triphosphate deaminase
CCA00408	Glycosyl hydrolase family protein
CCA00420	2-Oxoglutarate dehydrogenase
CCA00433	GTP-binding protein (Lepa)
CCA00445	DNA polymerase III
CCA00459	Type III secretion inner membrane protein (SctV)
CCA00465	Translation initiation factor 2
CCA00466	N utilization substance protein A
CCA00472	Inner membrane protein
CCA00475	Glycogen phosphorylase
CCA00482	Outer membrane protein
CCA00489	Conserved hypothetical protein
CCA00496	Magnesium transporter
CCA00499	Fructose-bisphosphate aldolase class I
CCA00506	DNA gyrase
CCA00507	DNA gyrase
CCA00552	Translation elongation factor P
CCA00612	Leucyl-tRNA synthetase
CCA00625	ATP-dependent Clp protease
CCA00643	60 kDa chaperonin
CCA00664	Isoleucyl-tRNA synthetase
CCA00676	Excinuclease ABC
CCA00677	Serine/threonine-protein kinase
CCA00678	Valyl-tRNA synthetase
CCA00683	ATP synthase
CCA00684	ATP synthase
CCA00690	DNA-directed RNA polymerase
CCA00691	DNA-directed RNA polymerase
CCA00694	Ribosomal protein L1
CCA00698	Translation elongation factor Tu
CCA00699	Translation initiation factor IF-1
CCA00730	Conserved hypothetical protein

CCA00761	Ribosomal protein S15
CCA00762	Polyribonucleotide nucleotidyltransferase
CCA00763	Cell division protein (FtsH)
CCA00770	Ribosomal protein L35
CCA00776	Ribonucleoside-diphosphate reductase beta
CCA00777	Ribonucleoside-diphosphate reductase alpha
CCA00780	Metalloprotease
CCA00810	Ribonuclease G
CCA00823	Glycyl-tRNA synthetase
CCA00829	DNA mismatch repair protein MutS
CCA00853	3-Oxoacyl-(acyl-carrier-protein) synthase II
CCA00863	UDP- <i>N</i> -acetylmuramate–alanineligase/ <i>D</i> -alanine– <i>D</i> -alanine ligase
CCA00873	Translation elongation factor P
CCA00875	Transketolase
CCA00876	Alanyl-tRNA synthetase
CCA00877	Transcription-repair coupling factor
CCA00885	NADH:ubiquinone oxidoreductase
CCA00887	Cell division protein (FtsK)
CCA00899	Cation-transporting ATPase
CCA00916	Phosphoenolpyruvate carboxykinase
CCA00917	Cell shape-determining protein (MreB)
CCA00918	Helicase
CCA00920	ATP-dependent Clp protease
CCA00925	Preprotein translocase
CCA00931	Helicase
CCA00948	General secretion pathway protein D
CCA00957	Threonyl-tRNA synthetase
CCA00958	Chromosome partitioning ATPase (ParA)
CCA00962	Excinuclease ABC
CCA00966	Conserved hypothetical protein
CCA00968	Succinate dehydrogenase
CCA00988	DNA topoisomerase I
(C)	
CCA00014	Conserved hypothetical protein
CCA00015	Conserved hypothetical protein
CCA00024	Conserved hypothetical protein
CCA00025	Conserved hypothetical protein
CCA00028	Glutamyl-tRNA reductase
CCA00039	Serine/threonine-protein kinase

CCA00042	Conserved hypothetical protein
CCA00052	Conserved hypothetical protein
CCA00092	Conserved hypothetical protein
CCA00118	Conserved hypothetical protein
CCA00131	Conserved hypothetical protein
CCA00132	Orotate phosphoribosyltransferase
CCA00139	Conserved hypothetical protein
CCA00145	DNA methyltransferase
CCA00154	Conserved hypothetical protein
CCA00168	Conserved hypothetical protein
CCA00177	Conserved hypothetical protein
CCA00180	Conserved hypothetical protein
CCA00188	Conserved hypothetical protein
CCA00189	Conserved hypothetical protein
CCA00196	Conserved hypothetical protein
CCA00221	Conserved hypothetical protein
CCA00222	Conserved hypothetical protein
CCA00239	DNA-3-methyladenine glycosylase
CCA00246	Conserved hypothetical protein
CCA00258	Sodium/pantothenate symporter
CCA00259	Conserved hypothetical protein
CCA00261	Conserved hypothetical protein
CCA00266	Conserved hypothetical protein (TIGR00089)
CCA00271	Polymorphic outer membrane protein E/F family
CCA00272	Polymorphic outer membrane protein E/F family
CCA00273	Polymorphic outer membrane protein E/F family
CCA00280	Polymorphic membrane protein G family
CCA00281	Polymorphic membrane protein G family
CCA00282	Polymorphic outer membrane protein G family
CCA00284	Polymorphic membrane protein G family
CCA00290	Conserved hypothetical protein
CCA00291	Conserved hypothetical protein
CCA00299	Conserved hypothetical protein
CCA00300	Conserved hypothetical protein
CCA00325	Conserved hypothetical protein
CCA00327	Conserved hypothetical protein
CCA00333	Conserved hypothetical protein
CCA00343	Conserved hypothetical protein
CCA00358	Conserved hypothetical protein

CCA00360	Conserved hypothetical protein
CCA00375	Conserved hypothetical protein
CCA00386	Conserved hypothetical protein
CCA00412	Hc2 nucleoprotein
CCA00426	Conserved hypothetical protein
CCA00439	ABC transporter
CCA00450	LtuB protein
CCA00470	Conserved hypothetical protein
CCA00471	Prolipoprotein diacylglyceryl transferase
CCA00491	Inclusion membrane protein B
CCA00495	Conserved hypothetical protein
CCA00497	Conserved hypothetical protein
CCA00501	ABC transporter
CCA00502	ABC transporter
CCA00503	Lipoprotein
CCA00525	Conserved hypothetical protein
CCA00530	Conserved hypothetical protein
CCA00537	Conserved hypothetical protein
CCA00543	Arginine repressor
CCA00546	Conserved hypothetical protein
CCA00561	Conserved hypothetical protein
CCA00575	Conserved hypothetical protein
CCA00576	Conserved hypothetical protein
CCA00582	Conserved hypothetical protein
CCA00583	Conserved hypothetical protein
CCA00591	Conserved hypothetical protein
CCA00593	5'-Methylthioadenosine nucleosidase-related protein
CCA00616	Conserved hypothetical protein
CCA00619	Conserved domain protein
CCA00620	Conserved domain protein
CCA00621	Conserved domain protein
CCA00624	Polymorphic outer membrane protein G family
CCA00665	Conserved hypothetical protein
CCA00700	Conserved hypothetical protein
CCA00709	Conserved hypothetical protein
CCA00716	Conserved hypothetical protein
CCA00717	Conserved hypothetical integral membrane protein
CCA00721	Structural protein
CCA00722	Nonstructural protein

CCA00726	3-Dehydroquinase synthase
CCA00733	Conserved hypothetical protein
CCA00738	Conserved hypothetical protein
CCA00743	Conserved hypothetical protein
CCA00753	Conserved hypothetical protein
CCA00754	Conserved hypothetical protein
CCA00781	Peptidase M20/M25/M40 superfamily
CCA00805	Conserved hypothetical protein
CCA00826	Conserved hypothetical protein
CCA00827	Conserved hypothetical protein
CCA00855	Conserved hypothetical protein
CCA00861	Periplasmic divalent cation tolerance protein
CCA00862	KH domain protein
CCA00883	RNA methyltransferase
CCA00902	Conserved hypothetical protein
CCA00907	Secretory protein
CCA00910	Conserved hypothetical protein
CCA00943	Conserved hypothetical protein
CCA00974	Conserved hypothetical protein
CCA00991	Conserved hypothetical protein
CCA00992	Conserved hypothetical protein
CCA01006	Conserved hypothetical protein
(D)	
CCA00071	TPR domain protein
CCA00150	Conserved hypothetical protein
CCA00237	Conserved hypothetical protein
CCA00292	Conserved hypothetical protein FRAMESHIFT
CCA00391	Ribosomal large subunit pseudouridine synthase C
CCA00392	Adenine glycosylase
CCA00416	Conserved hypothetical protein
CCA00417	Conserved hypothetical protein
CCA00444	recF protein
CCA00558	Adherence factor
CCA00560	MAC/perforin family protein (authentic frameshift)
CCA00565	N-(5' phosphoribosyl)anthranilate isomerase
CCA00572	Adenosine/AMP deaminase superfamily
CCA00573	GMP synthase
CCA00574	Inosine-5'-monophosphate dehydrogenase
CCA00670	Cytochrome-D oxidase

CCA00706	Conserved hypothetical protein
CCA00750	Conserved hypothetical protein
CCA00815	4-Diphosphocytidyl-2C-methyl-D-erythritol kinase
CCA00924	Conserved hypothetical protein
CCA01010	Conserved hypothetical protein

In all cases hypothetical genes with no homology to known genes have been excluded.