## Olshina et al. Supplementary Data

PfCCT1 PfCCT2 PfCCT3 PfCCT5 PfCCT5 PfCCT6 PfCCT7 PfCCT8	1 1 1 1 1 1 1 1	MSLSIYGNRESGQDVRTANVTAVQAISNILKSSLOPOGLDEMLVDNIGDVTITNDGATILKQLEVQHPAAKILVNLSELODQEVGDGTSVVVLASI MMNSVNPDVLKEGAQEDKGEIARLOVFVGAIAVGDLVKSTLGPRGLDKILTPLNIEGTRSHQHTVNDGATILKSVWLDNFVSKILVDVSMOODNKCGDGTTGVVVLASI MLKNPGTVLVPKPNTKREEGRKTQLSNIQASRAVSDIVKTTLGPMAMLKMMLDPLGGIVITNDGATILKEVVVLDNFVSKILVDVSMOODNKCGDGTTSVVILASI MAEVAKNKNTEKLNRNEKQNDVRLTNILAAKAVADVTRTSLOPKGMDKMIEDGKGGVITNDGATILKEMAVAHPTAKKIVELSKAQVDVAGGGTTSVVILASI NIAIDEYGQPFVILREEKKRIKGIEAHKSNILAAKVVADILKSSLGPRGMDKIIVSSNNVTVTNDGATILKEMAVAHPTASNLSRICSSIDEIGGTGVVVIAG NIAIDEYGQPFVILREEKKRIKGIEAHKSNILAAKVVADILKSSLGPRGMDKIIVSSGAIKITKDGNVLLNEMMIQHETASNLSRICSSIDEIGGTGVVVIAG NIAIDEYGQPFVILREEKKRIKGIEAHKSNILAAKVVADILKSSLGPRGMDKIIVSSGAIKITKDGNVLLNEMMIQHETASNLSRICSSIDEIGGTGVVVIAG NIAIDEYGQPFVILREGKKRIKGIEAHKSNILAAKVVADILKSSLGPRGMDKIIVSSGAIKITKDGNVLLNEMMIQHETASNLSRICSSIDEIGGTGVVVIAG NISHLLNKKADSLRSTNVLMTNMASKGNYEIIKSNLGPKGSYXMLVSSGAIKITKDGNVLLNEMMIQHETASNLSRICSSIDEIGGTGVVVIAG NSHLLNKKADSLRSTNVLMTNMASKGNYEIKSNLGPKCMNKLIINNHNSKGNYEIKSSTAVVAG	EMLRN ELLSV SFLNV VLLEE SLIYL ELLNE
PfCCT1 PfCCT2 PfCCT3 PfCCT5 PfCCT5 PfCCT6 PfCCT7 PfCCT8	115 110 109 115 105 110	GNE . LIKMDIHPTTVICGYKLAMKESVKYIKEKLSERVSNLGKDVIINTAKTTLSSKFIŠYESDYFAKMVANAIOSVKIINESGKTKYPVSSVN. VIKVHGMSSLDSKLIEG AEI.LVENKIHPOIICDGFRMALASAREALLDSCFCH.DVDSELFKEDMLKIARTTLSSKLLTHEKEHFAELAVNAILRIKDNLWLDLIO.IIKKTGGTIKDSYLEEG AEI.LVENKIHPOIICDGFRMALASAREALLDSCFCH.DVDSELFKEDMLKIARTTLSSKLLTHEKEHFAELAVNAILRIKDNLWLDLIO.IIKKTGGTIKDSYLEEG AET.FLRQNIHPTIIVNCYNNALDSSLKFLEEISIDIDVNSESDLLKAIDSCLSTKFVNRYNKIVSKLALEATRCVKMDNLMGRKEIDIKRYKVEKIPGGDITDSYVLEG ASA.LIDKNIHCQKISESFFEASLKSEILLREMSIPIDLNDKNKLONAITSLNSKVSYNSSLAPIAVDVILKITDIN.KDTNVDLNNVR.IVKLGGTIEDTEIVDG AYA.LIDKNIHCQKISESFFEASLKSEILLREMSIPIDLNDKNKLONAITSLNSKVSYNSSLAPIAVDVILKITDIN.KDTNVDLNNVR.IEGKTCGLLEESTLING SEKYILYENIHPRIITQGFDIAKGILLEFLDSMKIPVNIEND.HKILKKVAKTSLSSKIVSSKLADLSNIVVDAVLSVADMKRKDVRFDLIK.IEGKTCGLLEESTLIKG SEKYILYENIHPRIITQGFDIAKGILEFLDSMKIPVNIEND.KELVNVCKTCIRTKLPICLADKLADDLVESIKIIYKPTKQIDHHMIE.IMDIKRNMSINTKLVRA ASG.LIDOGIEPNINDILNCFVLGYKEIEKVLERMIVWKVPNFYEEKELIKVLKSVMLTKNISNNYNFLIQLLAKCISTLMPEKIEDFDVDNIR.VSKLNCGNIIDSCLIKG	FILEK VMINK LIFTG IVLNK MVLDH VAFKK
PfCCT1 PfCCT2 PfCCT3 PfCCT5 PfCCT6 PfCCT6 PfCCT8	225 225 221	GRASQAM PTVIKNAKIAFLDFPLKQYRLHLG. VQVNINDPKELEKIRQKEKDITKERVNKILESGANVILTTQGTDDMPLKYFVEAGAIAVRVNKDT RIGINQ PKSLSNCKINVANTPMDTDKIKIYGTKVNVHSFEDVQDLENERLKNKNKVENIISHCCNVFINRQLIYNYPEQIFRENNVMTIEHSDPD DITHERMRRYIKNPRILLLOCTLEXKKAESQ.TNVEILDEKTWNSLLLQE EEVKKMCEYIIDSKCDIVITEKGVSDLAQHFLVKKNISVIRVKNT KKISKKAGG.LKNLTQAKIGLIQFCLSIPKTPMD.NTVVKDYNSMDRLLRERRLIIGKMIKKIASTGCNLIIIQKSILRDAVNDLALDFLKKKKIMVIKDIDRE ELSHSQMIKEVRNAKIAILTCPFEPPKPKIK.HKLNITNVDAYRDLQAI CRHEMMPNKLTKCFILVLNVSLEVEKSEVF.SSFVYSNAEDRDKLVESERKFTDDKVKIIELKKILVEKKFKETNEIYNFAVFNQKGD FISLDLLAKENIMALRRIKRN FYSYAGFEQQFKKFINPKILLLNVELELKAKEN.AEVFIENNSIVQA PMDIIFKKLNLIKLCGANIVISKLFIGDIAQHFCDTNNIMTLXITSKF	GMERL DLNRL DIEFI EMELI NLERI DLKRT
PfCCT4 PfCCT5 PfCCT6	326 326 329 329 335 325	AKLTNGQIRLTLSSIDGTEKFEASSLGYCDEVYEDKVGDWDLMFFKGCRTSKSNTILLRGANDFVLDEMQRSIHDALCSVSRALESNYVVVGGCCVEVALSVYLEDFAKTLGS ANCLDABIASTFEKDLNIKLGYCDKIEEIIIGEDK.LVRFSGCKKNGACTIILRGASTHILEESERSLHDALAVLAETMKDNRVVLGGCCVEVALSVYLEDFAKTLGS ERISGATIVNRCEEIVEGDIGTKCGLFEIKKIGDV.YSFVECKDPHACTILLRGSTKDVLNEIENNLEDGMVVAKNILMEGKU SKTCNCIPVASLDYFTSDKLGYAENVTTESVGYGE.IVKITGVESKNTISVLLRASNNLMLDEAERSLHDALCVVRSLIKEAVLPGGAAPEMELSQKLYQWANTLKGS AIATGGKIIPFFEDIDESKLGYAENVTTESVGYGE.IVKITGVESKNTISVLLRASNNLMLDEAERSLHDALCSVKNLIKEKAVLPGGAAPEMELSQKLYQWANTLKGS VLCCGOPVASLDYITESVGYGG.IIVKITGVESKNTISVLLRASNNLMLDEAERSLHDALCSVKNLIKGALGSTEIYAALEIEKVADKCKG AIATGGKIIPFFEDIDESKLGYAENVTTESVGYGE.IVKITGVESKNTISVLLRASNNLMLDEAERSLHDALCSVKNLIKEGSTEIYAALEIEKVADKCKG ANATGALVQTSLFNLTEEDVGYAGLYVEISINDEK.YTFIEVQNPKSCTIFIQAPNDYTIKQIKDAIRDGLRSIKWVIDDCKVLSGACSFEIMAYCKLKDEZKKIKGG ANATGALVQTSLFNLTEDDVLGTCGVFEEVQIGNER.YNIFKECLKTKSVTIILRGGAKQFIEEVERSINDAIMIVLRCITNSEIVFGAAGSIEMQLSKYLRIYSKSICHF	KKSLA SRKSI SKQIC IEQYA KQKFA KEQIV
PfCCT1 PfCCT2 PfCCT3 PfCCT4 PfCCT5 PfCCT5 PfCCT7 PfCCT8	438 439 441 443 447 437	IAEFAESILVIP KILALNASYDSID UVC KLEAYHTKSQVNNIEDSKDYKNYGLDLVNG KVANNLKNGVLEAMISKIKSIR FATEATITILRIDDIKLVPEERKMEEEP. IEAYAKALROIPTYILDNGGFDSSEIVSKIRAQHTKGNKYAGIDIEKGDVGNIMELGIYESYNSKLSQITSATEAVEMILRVDDIKCAPRKRSGN. TEAVASALBIIPKILAQNSGVNVVKTMNBLRIKHEQEGGQEFGIDGITGDIIKVTTKNIWDLSVKKQIYKSAIEAASMILRDDVVSGVGKDEKVQKTIXNEF. VKAFSDAIELIPYTLAENAGLSPLHIVTELRNKHAEGHKYHGINIRTGTISNMIDENVIQPLLVTSTAIKLATETVMILKIDDTVICR. IRAFONALLSIPINLCNNMGLNSIDIISEKTKIIQDKSEPLGDLDTGEPTINSKYNOFSLATQVVKMILKIDDTVICR. UKAFSDAIELIPYTLAENAGLSPLHIVTELRNKHAEGSEPLGDLDTGEPTINSKYNOFSLATQVVKMILKIDDTVICR. IRAFONALLSIPINLCNNMGLNSIDIISEKTKIIQDKSEPLGDLDTGEPTINAKKGIVISTAIKLATETVMILKIDDTVICR. UKAFSDAIELIPYTLAENAGLSPLHIVTELRNKHAEGTSNLGIDCLNYKVGDMIERGIFETFNSKYNOFSLATQVVKMILKIDDTVICR. IRAFONALLSIPINLCNNMGLNSIDIISEKTKIIQDKSEPLGDLDTGEPTINAKKGIVISTAIKLATETVMILKIDDTVICR. UPSTAKAIESIPRHLSHNAGYDSTDILNKLRKKHSEQTSDIWYGVDCMEGDIINAYDNCIFEVTKIKRNVIYSATEAACLILSIDETIKNPSSAAGTQRSPYS. VKIFABAFYIIPKILARNAGYNTTDVLNELINEHNKGNTHSCININK.DSHITSAQNNHIYDNYNCKKYAIHLAMEAVQTILKIDQIIMSKPAGGFKPRDKNPDYDEJ	· · · · · ·

ATP-binding residues

## Supplementary Figure 3: Multiple sequence alignments of PfCCT subunits

Multiple sequence alignment of all PfCCT subunits showing conservation between residues. The aspartic acid residues potentially involved in ATP hydrolysis identified across the subunits are highlighted (pink bar) demonstrating likely conservation of the catalytic site.