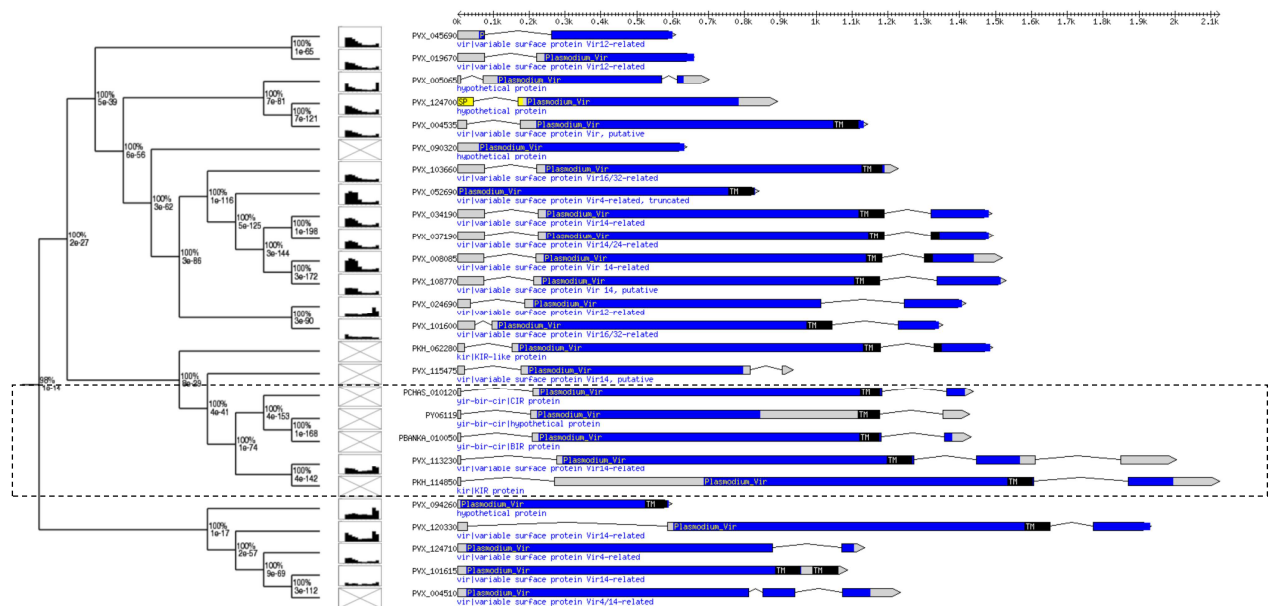




Additional File 3: Sub-tree of the larger *vir/kir* gene cluster showing the placement of the five conserved PIR orthologs. The five conserved *pir* genes (PCHAS_010120, PBANKA_010050, PY06119, PVX_113230 and PKH_114850) are marked with a dashed rectangle. The closest *vir* genes clustering with these five genes are PVX_115475 and PVX_113230, two annotated members of the *vir14* gene family. PVX_115475 has a suspiciously truncated gene structure compared to its closest homologs and other *vir14* genes, suggesting that this gene model is currently mispredicted. The complete *vir/kir* gene cluster can be found at <http://genome.sfu.ca/projects/gfc-plasmodium/clusters/vir-kir/static.html>.