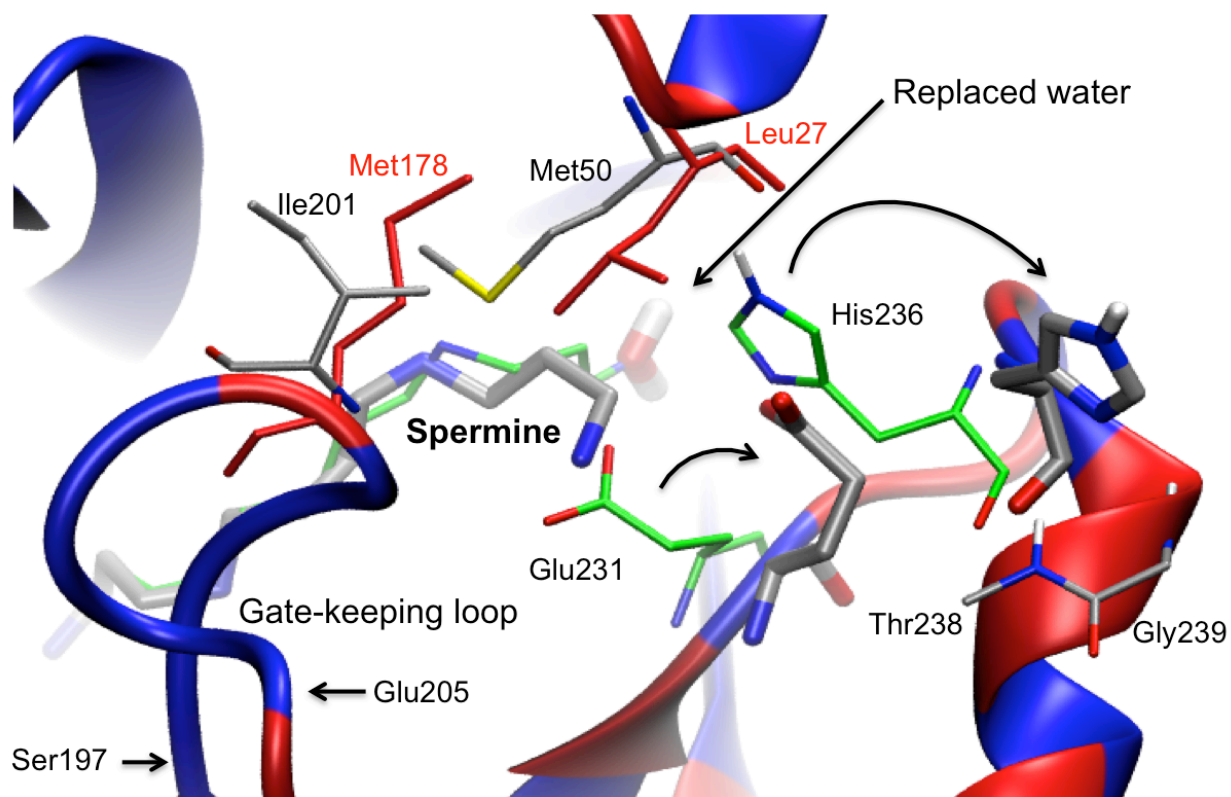




**Additional file 7** Two different binding poses spermine assumes when co-crystallized with MTA within *PfSpdS* [PDB 3B7P]. The conformation of spermine illustrated by green colored carbons displaces a water molecule found in all *PfSpdS* crystal structures. The conformation of spermine illustrated by grey colored carbons represents the dominant orientation and is similar to that proposed for compound **9**. The conformational changes that Glu231 and His236 undergo are shown highlighted by arrows depicting the conformation they normally assume illustrated in green and the altered conformations adopted in grey.