



**Supplementary Figure S7.** Phylogeny of the *cynA* gene from reference genomes and environmental clones. The cynX-X-XX sequences correspond to those obtained by Kamennaya et al. in the Gulf of Aqaba, northern Red Sea (Kamennaya et al., 2008). The percentage of 100 replicate trees in which the associated taxa clustered together is indicated on nodes by closed circles (>75%) or open circles (>50%). *Prochlorococcus* SB clusters with many of the *cynA* clones obtained from the Red Sea indicating that these sequences were derived from the HLII clade of *Prochlorococcus*.