



Figure S3. Structure of archaeal (Panel A) and bacterial (Panel B) type LeuRSs complexed with tRNA^{Leu}. Panels A and B depict the structures of LeuRS from *Pyrococcus horikoshii* (1WZ2) and the *Thermus thermophilus* (2BYT), respectively. The amino terminal portion of the protein that contains a strong phylogenetic signal is depicted in blue, the carboxy terminal part is less conserved between the domains and is colored green, and the tRNA is colored red. Atoms of side chains of amino acids within 6 Angstrom of the tRNA are depicted as space filling spheres, for the remainder of the protein only the alpha carbons of the protein backbone are depicted.