Table S4. Water distribution parameters determined by fitting of theoretically calculated transfer energy curves to statistical energy profiles of Trp and Tyr residues (symmetric membrane model).

Membrane	$C_{H2O,HG}$[1], M	$C_{H2O,mid}$[1], M	z_0[2], Å	Z_{CG}[3], Å	$Z_{CG} - z_0$[4], Å	λ[5], Å	rmsd (kcal/mol)
DOPC[11]	2.05	0.39	8.2	14.8	6.6	0.5	n.a.
Inner bacterial, archaeal, eukaryotic (α-helical proteins)	3.66	0.55	9.0	15.0	6.0	1.1	0.21
Outer bacterial (β-barrel proteins)	5.33	0.55	7.5	11.8	4.3	1.9	0.33

[1] molar concentrations of water in the center of membrane ($C_{H2O, mid}$) and in the mid-polar region ($C_{H2O,HG}$) calculated from volume fractions of water in eq. (5)

[2] z_0 from eq. (5), semi-width of central non polar region;

[3] semi-width of acyl chain region (corresponding to the position of lipid carbonyls);

[4] width of "mid-polar" region;

[5] decay rate from eq. (5)