

**TABLE 3** Experimental ion permeability coefficients in different bilayers

Lipid	Ion	$P \cdot 10^{-12}$ cm/s	$\Delta G_{\text{trans}}^{\text{app}}$ (kcal/mol)	$W_{\text{peak}}$ (kcal/mol)
DPhPC/n-decane	GuanH <sup>+</sup> 0.1, 1M	10, 0.9	18, 19	20, 21
	K <sup>+</sup> 0.1M	9	18	20
	Cl <sup>-</sup> 0.1, 1M	8, 0.7	18, 19	20, 21
DphPC/n-decane	GuanH <sup>+</sup> 0.1, 1M	2, 0.2	19, 20	21, 22
	Cl <sup>-</sup> 0.1, 1M	3, 0.2	18, 20	20, 22
Bovine brain PS <sup>a</sup>	Na <sup>+</sup>	0.16		23.5 ± 2.7
	K <sup>+</sup>	0.91		22.5 ± 3.9
	Cl <sup>-</sup>	6.5		20.8 ± 0.4
DOPC <sup>b</sup>	K <sup>+</sup>	3.47		
	Cl <sup>-</sup>	12100 ± 1400		
Egg lecithin <sup>c</sup>	Na <sup>+</sup>	0.021 - 0.029		
	Cl <sup>-</sup>	55		
Ox-brain PS <sup>c</sup>	Na <sup>+</sup>	0.055		
	Cl <sup>-</sup>	15		

Results from this work in DPhPC/n-decane and DphPC/n-decane bilayers at 298 K have relative uncertainties of ~50%. Apparent free energies of transfer,  $\Delta G_{\text{trans}}^{\text{app}}$ , and estimated peak energy barriers,  $W_{\text{peak}}$ , for GuanH<sup>+</sup>, K<sup>+</sup> and Cl<sup>-</sup> from this study in DPhPC/n-decane and DphPC/n-decane bilayers have uncertainties of ~1 kcal/mol.

<sup>a</sup>Experimental results from Papahadjopoulos et al. (13), for bovine brain PS bilayers at 309 K, with peak values estimated at 300 K.

<sup>b</sup>Experimental results from Paula and co-workers (2,3) for DOPC at 303K.

<sup>c</sup>Experimental results from Hauser et al. (11) at 277 K and pH 5.5 for Cl<sup>-</sup>.

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13. Papahadjopoulos, D., S. Nir, and S. Oki. 1972. Permeability properties of phospholipid membranes: effect of cholesterol and temperature. *Biochim. Biophys. Acta.* 266:561–583.