

Supplementary Table 3. Noble gas diffusion coefficients in liquid water and ice

Diffusion coefficient	He (m ² s ⁻¹)	Ne (m ² s ⁻¹)	Ar (m ² s ⁻¹)	Kr (m ² s ⁻¹)	Xe (m ² s ⁻¹)
<i>Liquid water at ~0°C</i>	4.74E-09	2.34E-09	1.44E-09	8.77E-10	6.64E-10
<i>Ice at -25.4°C^b</i>	2.40E-10	1.07E-10	7.59E-11	5.24E-11	4.20E-11

^aDiffusion coefficients for liquid water calculated from *Eyring* [1936] and *Jähne et al.* [1987] as described in supplementary text 3

^bDiffusion coefficients for ice calculated by mass-scaling the diffusion coefficient of CO₂ in ice from Antarctica (*Ahn et al.*, 2008) as described in supplementary text 3