Supporting Information

The structure of aqueous solutions of hexafluoro-iso-propanol studied by neutron diffraction with hydrogen/deuterium isotope substitution and empirical potential structure refinement modeling

K. YOSHIDA^a, T. YAMAGUCHI^{a*}, D. T. BOWRON^b, J. L. FINNEY^c

^a Department of Chemistry, Faculty of Science, Fukuoka University, Nanakuma, Jonan, Fukuoka 814-0180, Japan.

^bISIS Facility, Rutherford Appleton Laboratory, Didcot, OX11 0QX, UK

^cDepartment of Physics and Astronomy, University College London, Gower Street, London WC1E 6BT, UK



Figure S1. The pair correlation functions of the non-polar interaction between HFIP and water molecules for the HFIP-water mixtures at $x_{\text{HFIP}} = 0.1$ (solid lines), 0.2 (dashed lines), and 0.4 (dot and dashed lines).



Figure S2. The pair correlation functions of HFIP-HFIP interaction for the HFIP-water mixtures at $x_{\text{HFIP}}=0.1$ (solid lines), 0.2 (dashed lines), and 0.4 (dot and dashed lines).



Figure S2. (Continured)

				$x_{ m HFIP}$	
	$r_{\rm min}$	<i>r</i> _{max}	0.1	0.2	0.4
O _W –O _W	3.3	6.0	15.0 ± 3.2	10.6 ± 3.1	5.4 ± 2.8
O _W -H _W	2.5	4.5	14.5 ± 3.6	11.1 ± 3.6	6.5 ± 3.3
O _W -H	2.5	4.5	0.65 ± 0.75	1.0 ± 0.9	1.6 ± 1.1
$O-H_W$	2.5	4.0	7.3 ± 2.0	5.5 ± 2.4	3.4 ± 1.9
0-0	3.3	7.0	2.4 ± 1.3	3.6 ± 1.3	5.3 ± 1.5
О-Н	2.5	4.0	0.19 ± 0.40	0.34 ± 0.50	0.57 ± 0.70
$C-O_W$	5.3	7.5	23.5 ± 3.0	15.3 ± 4.0	7.4 ± 2.9
$Cc-O_W$	4.2	6.0	15.0 ± 2.2	9.8 ± 3.9	4.8 ± 2.5
C_{C} - H_{W}	3.3	6.0	35.2 ± 4.4	23.3 ± 7.0	12.3 ± 5.6
C _C -O	4.3	5.0	1.2 ± 0.9	1.8 ± 1.1	2.9 ± 1.5
С _С -Н	3.3	6.0	1.2 ± 0.9	1.8 ± 1.1	2.9 ± 1.5
C-C	5.8	8.5	8.6 ± 2.1	12.3 ± 2.5	16.4 ± 2.8
F-C	4.8	8.0	7.7 ± 1.9	11.8 ± 2.5	15.7 ± 2.6
F-F	3.8	5.6	5.2 ± 2.3	9.0 ± 3.1	12.4 ± 3.2

Table S1. The coordination number of the second neighbor coordination shell obtained from integration of pcfs between the lower and upper limits r_{min} and r_{max} , respectively, HFIP-HFIP interactions at $x_{HFIP} = 0.1, 0.2, \text{ and } 0.4$.