Table A. Enthalpy of dilution of RD in water at 298 K.

$m_{L,i}$ mmol kg^{-1}	m_L mmol kg^{-1}	$\Delta H_{d,L}$ kJ mol^{-1}
13.23	6.593	0.214
11.89	5.494	0.201
9.230	4.607	0.264
8.294	4.010	0.261
7.343	3.658	0.311
7.212	3.606	0.234
6.428	3.194	0.305
5.395	2.706	0.364
4.755	2.385	0.396
4.348	2.177	0.397
3.924	1.974	0.437
3.924	1.974	0.433
3.347	1.686	0.447
3.274	1.644	0.381
2.544	1.276	0.318
2.094	1.050	0.305
1.207	0.6111	0.233

Table B. Enthalpy of transfer of RD from water to aqueous copolymer solutions at 298 K.

m_P mmol kg^{-1}	ΔH_t kJ mol^{-1}	m_P mmol kg^{-1}	ΔH_t kJ mol^{-1}
F88		F108	
0.0275	2.09	0.00449	0.59
0.0895	5.37	0.0389	3.98
0.183	7.96	0.0424	3.34
0.940	9.87	0.0695	5.68
1.240	10.1	0.145	7.84
2.890	10.7	0.189	9.06
3.870	10.0	0.336	9.03
4.720	10.5	0.694	9.58
6.150	10.5	0.823	9.44
7.200	10.7	1.150	9.98
7.200	10.5	1.300	10.3
F68		L35	
0.1031	4.62	0.1749	3.27
0.2317	6.53	0.4072	6.78
0.2394	7.50	0.4072	6.40
0.6106	8.89	0.7260	9.22
0.7028	8.98	1.0860	11.0
0.9831	9.10	1.982	12.2
1.470	9.67	1.987	12.4
2.103	10.5	3.465	12.2
2.390	10.1	4.965	12.7
3.570	11.3	6.306	12.9
4.132	11.2	7.718	12.8
4.180	11.2	10.93	13.2
5.520	11.0	14.79	11.4
10R5		15.38	12.4
0.2117	3.72	24.83	11.0
0.3175	5.30	31.84	9.02
0.3175	5.08	38.01	8.28
0.4844	6.07	40.64	8.49
0.9844	8.78	L64	
1.370	10.5	0.0478	1.44
1.474	11.5	0.1817	4.71
1.967	11.7	0.3232	7.59
2.418	11.6	0.6256	10.3
3.570	12.2	1.500	12.9
3.671	11.8	2.740	14.3
4.876	12.1	4.730	15.4
4.890	12.4	6.520	15.8
6.630	12.6	7.380	16.5
8.460	12.8	9.570	16.1
9.668	12.6	10.66	16.5
14.36	12.5	12.44	16.5
16.65	11.8	15.58	17.1
20.42	11.9	16.86	16.3
23.57	11.4	20.47	16.3
26.35	11.8		
28.31	10.8		

Table C. Enthalpy of transfer of RD from water to aqueous polymers solution at 298 K.

m_P mmol kg^{-1}	ΔH_t kJ mol^{-1}	m_P mmol kg^{-1}	ΔH_t kJ mol^{-1}
PEG 400		PEG 900	
0.0697	0.22	0.6209	3.48
0.1485	0.43	1.410	5.90
0.3148	0.86	3.932	8.74
0.4680	1.17	6.524	9.75
0.9959	2.18	10.09	12.7
2.070	3.60	16.72	13.3
5.158	5.39	23.06	14.9
9.109	6.56	33.72	15.3
14.97	7.66	41.01	14.7
19.26	8.10	PPG 425	
PEG 20000		0.8935	3.81
0.0188	1.67	1.270	5.26
0.0188	1.67	2.540	8.53
0.0483	3.29	2.540	9.10
0.0483	3.29	4.060	11.2
0.0730	4.26	5.360	12.1
0.1441	5.26	7.450	13.2
0.1441	5.26	9.880	14.6
0.2395	6.54	12.29	15.3
0.2395	6.54	PPG 725	
0.3707	6.71	0.1978	1.92
0.3707	6.71	0.4258	3.59
0.7384	6.86	1.214	8.02
0.7384	6.86	1.422	8.79
0.9808	6.34	2.339	11.4
1.394	6.43	3.545	12.7
1.394	6.43	4.682	13.0
1.491	7.02	4.696	13.2
PPG 1200		5.358	13.4
0.0475	0.70	6.544	13.2
0.1403	1.87	8.363	13.4
0.2320	3.13	9.019	13.6
0.4495	5.12	11.63	13.4
0.6547	7.06		
0.8970	8.73		

Table D. Enthalpy of transfer of RD from water to aqueous PEG 900+PPG 725 mixture at 298 K.

$m_{PEG\ 900}$ mmol kg^{-1}	$m_{PPG\ 725}$ mmol kg^{-1}	ΔH_t kJ mol^{-1}
0.0792	0.0797	-1.40
0.1421	0.1429	-2.42
0.2672	0.2688	-4.17
0.5237	0.5269	-6.86
1.370	1.380	-11.4
4.270	4.270	-14.8
8.390	8.420	-16.6
10.32	10.30	-17.3

Table E. First-order rate constants for the adsorption process of copolymers onto RD at 298 K.[a]

	L35				**10R5**			
M_P / M_L	1	5	25	40	1	5	25	40
0.131	0.00629	0.0126	0.0133	0.0148	0.00599	0.0126	0.0143	0.0150
0.228	0.00813	0.0161	0.0168	0.0185	0.00733	0.0156	0.0172	0.0185
0.327	0.00973	0.0193	0.0199	0.0225	0.00847	0.0190	0.0202	0.0216
0.436	0.0114	0.0226	0.0231	0.0259	0.0103	0.0221	0.0246	0.0257
0.553	0.0138	0.0251	0.0275	0.0311	0.0121	0.0262	0.0283	0.0302
0.654	0.0148	0.0289	0.0304	0.0339	0.01345	0.0290	0.0321	0.0340
	L64				**F68**			
M_P / M_L	0.5	12.5	25		0.1	0.725	3.5	
1.31	0.000820	0.00282	0.00892		0.00465	0.0161	0.0672	
2.25	0.00121	0.00434	0.0132		0.00765	0.0261	0.109	
3.27	0.00176	0.00613	0.0190		0.0110	0.0370	0.154	
4.37	0.00219	0.00765	0.0239		0.0144	0.0478	0.200	
5.55	0.00273	0.00971	0.0297		0.0183	0.0621	0.256	
6.54	0.00320	0.0112	0.0346		0.0213	0.0723	0.302	

[a]Units are: M_L and M_P, mmol dm^{-3}; First-order rate constants, s^{-1}; they were reproducible within ±5%

Table F. Formation and dissociation rate constants for the adsorption process of copolymers onto RD at 298 K.

M_P mmol dm^{-3}	k_f dm^3 mol^{-1} s^{-1}	k_d s^{-1}	M_P mmol dm^{-3}	k_f dm^3 mol^{-1} s^{-1}	k_d s^{-1}
L35			**10R5**		
1.00	16.5 ± 0.6	0.0043 ± 0.0003	1.00	14.5 ± 0.3	0.0040 ± 0.0001
5.00	30 ± 1	0.0090 ± 0.0004	5.00	31.5 ± 0.4	0.0085 ± 0.0002
25.0	32.7 ± 0.6	0.0092 ± 0.0003	25.0	34.2 ± 0.8	0.0095 ± 0.0003
40.0	36.9 ± 0.9	0.0101 ± 0.0004	40.0	36.3 ± 0.5	0.0101 ± 0.0002
L64			**F68**		
0.50	0.454 ± 0.008	0.00022 ± 0.00003	0.100	3.19 ± 0.02	0.00052 ± 0.00009
12.5	1.60 ± 0.02	0.00076 ± 0.00009	0.725	10.8 ± 0.1	0.0018 ± 0.0006
25.0	4.92 ± 0.07	0.0025 ± 0.0003	3.50	44.6 ± 0.3	0.008 ± 0.001