Supplementary Information

Counter anion dependent swelling behaviour of poly(octadecyl acrylate)-based lipophilic polyelectrolyte gels as superabsorbent polymers for organic solvents.

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Table S1 Swelling behaviors of lipophilic polyelectrolyte gels (**EG18(X)**) and nonionic gel (**NG18**) in various organic solvents.

	ε	Swelling Degree (Q)			
		NG18	**EG18(DS)**	**EG18(TFPB)**	**EG18(IM)**
Hexane	1.9	11	11	12	16
Toluene	2.4	25	19	24	31
Chloroform	4.8	49	38	99	122
Tetrahydropyran	5.6	33	18	93	79
Chlorobenzene	5.6	35	22	70	109
Ethyl acetate	6.0	0.4	0.6	1	3
1-Chlorobutane	7.4	40	18	89	104
Tetrahydrofuran	7.6	23	18	121	119
2-Octanol	8.2	2	0.8	2	3
Dichloromethane	8.9	25	34	128	224
1,2-Dichloroethane	10.4	3	3	157	181
2-Octanone	10.4	2	2	3	29
2-Heptanone	12.0	2	0.9	3	29
4-Methyl-2-heptanone	13.1	1	0.8	2	4
Cyclopentanone	13.6	0.5	0.8	3	1
Cyclohexanone	16.1	2	0.7	4	4
1-Butanol	17.5	0.6	0.4	1	2
2-Butanone	18.5	1.2	0.7	2	2
Acetone	20.6	0.4	0.5	0.8	1
Butyronitrile	24.8	0.4	0.7	2	2
Propionitrile	28.9	0.5	0.6	2	1
4-Methyl-2-pentanone	32.2	0.6	0.9	2	1
Methanol	32.7	0.1	0.9	0.3	1
Acetonitrile	35.9	0.2	0.2	0.2	1
DMF	36.7	0.3	0.7	0.7	1
DMSO	46.5	0.8	0.8	3	1

Table S2 Relative Swelling ratio (Q') of lipophilic polyelectrolyte gels (**EG18(X)**) in various organic solvents.

	ε	**Relative Swelling Ratio (Q')**		
		EG18(DS)	**EG18(TFPB)**	**EG18(IM)**
Hexane	1.9	1.0	1.1	1.4
Toluene	2.4	0.7	0.9	1.2
Chloroform	4.8	0.8	2.0	2.5
Tetrahydropyran	5.6	0.6	2.8	2.4
Chlorobenzene	5.6	0.6	2.0	3.1
1-Chlorobutane	7.4	0.4	2.2	2.6
Tetrahydrofuran	7.6	0.8	5.3	5.2
Dichloromethane	8.9	1.3	5.1	8.9
1,2-Dichloroethane	10.4	1.4	63.7	73.3
2-Octanone	10.4	0.9	1.9	16.5
2-Heptanone	12.0	0.7	2.9	24.6
4-Methyl-2-heptanone	13.1	0.6	1.9	3.2