

Supplementary Materials

New Advances on the Dispersive and Polar Surface Properties of Poly(styrene-co-butadiene) using Inverse Gas Chromatography

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Table S1. Values of $RT\ln Vn$ (kJ/mol) of solvents adsorbed on SBR as a function of the temperature.

Solvents	303.15K	313.15K	323.15K	333.15K	343.15K
n-pentane	17.800	16.898	15.898	14.898	13.898
n-hexane	20.352	19.164	17.964	16.764	15.564
n-heptane	22.605	21.151	19.761	18.372	16.984
n-octane	25.097	23.336	21.724	20.115	18.511
n-nonane	27.402	25.352	23.531	21.717	19.910
cyclohexane	20.015	18.958	17.841	16.723	15.605
Benzene	19.370	18.472	17.469	16.465	15.460
Toluene	29.321	28.035	26.697	25.360	24.022
Ethyl acetate	30.148	28.780	27.271	25.759	24.246
Ethanol	23.597	20.917	17.916	14.909	11.895
THF	25.576	24.504	23.236	21.965	20.690
Acetonitrile	23.628	21.978	19.990	17.996	15.995
Chloroform	25.322	23.628	21.802	19.975	18.146
Diethyl ether	36.626	35.278	33.792	32.305	30.816
Acetone	26.381	25.312	23.970	22.623	21.271
Dichloromethane	21.887	20.444	18.790	17.132	15.470

Table S2. Variations of polar free energy $\Delta G_a^p(T)$ (kJ/mol) of different polar solvents adsorbed on SBR copolymer as a function of temperature.

Temperature T(K)	303.15	313.15	323.15	333.15	343.15
Cyclohexane	1.090	1.058	1.026	0.994	0.962

Benzene	1.723	1.696	1.669	1.642	1.615
Toluene	10.136	9.906	9.676	9.446	9.216
Ethyl acetate	13.590	12.963	12.336	11.709	11.082
Ethanol	12.346	9.772	7.198	4.624	2.050
THF	10.610	10.088	9.566	9.044	8.522
Acetonitrile	12.871	11.268	9.665	8.062	6.459
Chloroform	8.471	7.553	6.635	5.717	4.799
Diethyl ether	19.951	19.358	18.765	18.172	17.579
Acetone	13.690	12.899	12.108	11.317	10.526
Dichloromethane	7.405	6.455	5.505	4.555	3.605

Table S3. Variations of dispersive free energy $\Delta G_a^d(T)$ (kJ/mol) of different solvents adsorbed on SBR copolymer as a function of temperature.

Temperature T(K)	303.15	313.15	323.15	333.15	343.15
n-Pentane	13.571	11.946	10.782	9.628	8.486
n-Hexane	16.059	14.136	12.759	11.393	10.041
n-Heptane	18.199	16.020	14.459	12.912	11.380
n-Octane	21.133	18.603	16.790	14.993	13.214
n-Nonane	22.974	20.224	18.253	16.300	14.366
Cyclohexane	14.661	12.906	11.648	10.402	9.168
Benzene	13.383	11.781	10.633	9.495	8.368
Toluene	14.922	13.135	11.855	10.587	9.331
Ethyl acetate	12.294	10.822	9.768	8.722	7.687
Ethanol	6.987	6.151	5.551	4.957	4.369
THF	10.703	9.422	8.504	7.594	6.693
Acetonitrile	6.493	5.716	5.159	4.607	4.060
Chloroform	12.588	11.081	10.001	8.931	7.871
Diethyl ether	12.411	10.925	9.861	8.805	7.761
Acetone	8.427	7.418	6.695	5.979	5.270
Dichloromethane	10.218	8.995	8.119	7.250	6.390