

Table A-1. Compilation of hundred important organic solvents together with their physical constants, arranged by decreasing ET-values as empirical parameter of solvent polarity.

No.	Solvent Name	Name in Chinese	ET (h)	bp (°C)	mp (°C)	nD20 (g)	Er(e)	u (f)
(1)	Water	水	1	100	0	1.333	78.3	5.9
(2)	Formamide	甲酰胺	0.799	210.5	2.55	1.4475	111.0 (20°)	11.2
(3)	1,2-Ethandiol	乙二醇	0.79	197.5	-12.6	1.4318	37.7	7.7
(4)	Methanol	甲醇	0.762	64.5	-97.7	1.3284	32.66	5.7
(5)	N-Methylformamide	甲基甲酰胺	0.722	180-185	-3.8	1.4319	182.4	12.9
(6)	Diethylene glycol	双乙二醇	0.713	245.7	-7.8	1.4475	31.69 (20°)	7.7
(7)	Triethylene glycol	三乙二醇	0.704	288	-4.3	1.4558	23.69 (20°)	10.0
(8)	2-Methoxyethanol	2-甲氧基乙醇	0.667	124.6	-85.1	1.4021	16.93	6.8
(9)	Tetraethylene glycol	四乙二醇	0.664	327.3	-6.2	1.4577	19.7	10.8
(10)	N-Methylacetamide	甲基乙酰胺	0.657	206.7	30.6	1.4253 (35°)	191.3 (32°)	14.2
(11)	Ethanol	乙醇	0.654	78.3	-114.5	1.3614	24.55	5.8
(12)	2-Aminoethanol	氨基乙醇	0.651	170.95	10.5	1.4545	37.72	7.6
(13)	Acetic acid	乙酸	0.648	117.9	16.7	1.3719	6.17 (20°)	5.6
(14)	1-Propanol	丙醇	0.617	97.15	-126.2	1.3856	20.45	5.5
(15)	Benzyl alcohol	苄醇	0.608	205.45	-15.3	1.5404	13.1 (20°)	5.5
(16)	1-Butanol	丁醇	0.602	117.7	-88.6	1.3993	17.51	5.8

(17)	1-Pentanol	戊醇	0.568	138	-78.2	1.41	13.9	5.7
(18)	3-Methyl-1-butanol, Isoamyl alcohol	异戊醇	0.565	130.5	-117.2	1.4072	15.19	6.1
(19)	2-Methyl-1-propanol, Isobutyl alcohol	异丁醇	0.552	107.9	-108	1.3959	17.93	6.0
(20)	2-Propanol(m)	异丙醇	0.546	82.2	-88	1.3772	19.92	5.5
(21)	2-Butanol	2-丁醇	0.506	99.5	-114.7	1.3971	16.56	5.5
(22)	Cyclohexanol	环己醇	0.5	161.1	25.15	1.4648(25°)	15	6.2
(23)	Propylene carbonate	碳酸丙二酯	0.491	241.7	-54.5	1.4215	64.92	16.5
(24)	2-Pentanol	2-戊醇	0.488	119		1.4064	13.71	5.5
(25)	Nitromethane	硝基甲烷	0.481	101.2	-28.55	1.3819	35.94	11.9
(26)	3-Pentanol	3-戊醇	0.463	115.3	-75	1.4104	13.35	5.5
(27)	Acetonitrile	乙腈	0.46	81.6	-43.8	1.3441	35.94	11.8
(28)	Dimethylsulfoxide	二甲亚砜	0.444	189	18.5	1.4793	46.45	13.5
(29)	Aniline	苯胺	0.42	184.4	-6	1.5863	6.71(30°)	5.0
(30)	Sulfolane	环丁砜	0.41	287.3 (dec.)	28.45	1.4816(30°)	43.3(30°)	16
(31)	Acetic anhydride	乙酸酐	0.407	140	-73.1	1.3904	20.7(19°)	9.4
(32)	N,N-Dimethyl-formamide	二甲基甲酰胺	0.404	153	-60.4	1.4305	36.71	10.8
(33)	N,N-Dimethyl-acetamide	二甲基乙酰胺	0.401	166.1	-20	1.4384	37.78	12.4
(34)	Propanenitrile	丙腈	0.401	97.35	-92	1.3658	28.86(20°)	11.7

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(35)	2-Methyl-2-propanol, t-Butanol	叔丁醇	0.389	82.3	25.6	1.3877	12.47	5.5
(36)	1,3-Dimethyl-imidazolidin-2-one, DMEU	二甲基乙撑脲	0.364	225.5	8.2	1.4707(25°)	37.6	13.6
(37)	1-Methylpyrrolidin-2-one	甲基吡咯烷酮	0.355	202	-24.4	1.47	32.2	13.6
(38)	Acetone	丙酮	0.355	56.1	-94.7	1.3587	20.56	9.0
(39)	1,3-Dimethyl-2-oxo-hexahydropyrimidine, DMPU	二甲基亚丙基脲	0.352	230	<-20	1.4881(25°)	36.12	14.1
(40)	1,2-Diaminoethane	乙二胺	0.349	116.9	11.3	1.4568	12.9	6.3
(41)	Cyanobenzene	腈基苯	0.333	191.1	-12.75	1.5282	25.2	13.4
(42)	1,2-Dichloroethane	1,2-二氯乙烷	0.327	83.5	-35.7	1.4448	10.37	6.1
(43)	2-Butanone	丁酮, 甲乙酮	0.327	79.6	-86.7	1.3788	18.51(20°)	9.2
(44)	Nitrobenzene	硝基苯	0.324	210.8	5.8	1.5562	34.78	133.0
(45)	2-Methyl-2-butanol, t-Pentyl alcohol	叔戊醇	0.321	102	-8.8	1.405	5.78	5.7
(46)	2-Pentanone	2-戊酮	0.321	102.3	-76.9	1.3908	15.38(20°)	90.0
(47)	Tetramethylurea	四甲基脲	0.318	175.2	-1.2	1.4493(25°)	23.6	11.7
(48)	Morpholine	吗啉	0.318	128.9	-4.8	1.4542	7.42	5.2
(49)	Hexamethylphosphoric acid triamide, HMPT	六甲基磷酰胺	0.315	233	7.2	14588	296	18.5
(50)	3-Methyl-2-butanone	异戊酮	0.315	94.2	-92	1.388	15.87(30°)	9.2
(51)	Dichloromethane"	二氯甲烷	0.309	39.6	-94.9	1.4242	8.93	5.2
(5)	Acetophenone	苯乙酮	0.3	202	19.	1.534	17.39	9.8

2)			06		6	2		
(5 3)	Pyridine	吡啶	0.3 02	115.2 5	- 41. 55	1.510 2	12.91	7.9
(5 4)	Methyl acetate	乙酸甲酯	0.2 87	56.9	- 98. 05	1.361 4	6.68	5.7
(5 5)	Cyclohexanone	环己酮	0.2 81	155.6 5	- 32. 1	1.451	16.10 (20°)	10. 3
(5 6)	4-Methyl-2-pentanone	4-甲基-2-戊酮	0.2 69	117.4	- 84. 7	1.395 8	13.11 (20°)	2.7
(5 7)	1,1-Dichloroethane	1,1-二氯乙烷	0.2 69	573	-97	1.416 4	10.0( 18°)	6.1
(5 8)	Quinoline	喹啉	0.2 69	237.1	- 14. 85	1.627 3	8.95	7.3
(5 9)	3-Pentanone	3-戊酮	0.2 65	102	-39	1.392 3	17.00 (20°)	9.4
(6 0)	Chloroform	氯仿	0.2 59	61.2	- 63. 5	1.445 9	4.81( 20°)	3.8
(6 1)	3,3-Dimethyl-2-butanone	3,3-二甲基-2-丁酮	0.2 56	106.3	- 49. 8	1.395 2	13.1( 14.5°)	9.3
(6 2)	Triethylene glycol dimethyl ether	三乙二醇二甲基醚	0.2 53	216	-45	1.422 4	7.5	
(6 3)	2,4-Dimethyl-3-pentanone	2,4-二甲基-3-戊酮	0.2 47	125.2 5	-69	1.399 9	17.2( 20°)	9.1
(6 4)	Diethylene glycol dimethyl ether	双乙二醇二甲基醚	0.2 44	159.8 (dec.)	-64	1.407 8	5.8	6.6
(6 5)	1,2-Dimethoxyethane	乙二醇二甲基醚	0.2 31	84.5	-69	1.379 6	7.2	5.7
(6 6)	Ethyl acetate	乙酸乙酯	0.2 28	77.1	- 83. 55	1.372 4	6.02	6.1
(6 7)	1,2-Dichlorobenzene	邻二氯苯	0.2 25	180.5	-17	1.551 5	9.93	7.1
(6 8)	2,6-Dimethyl-4-heptanone	2,6-二甲基-4-庚酮	0.2 25	168.2	-46	1.412 2	9.91( 20°)	8.9
(6 9)	Diethylene glycol diethyl ether	双乙二醇二乙基醚	0.2 1	188.9	- 44. 3	1.411 5	5.7	

(70)	Tetrahydrofuran	四氢呋喃	0.207	66	-108.4	1.4072	7.58	5.8
(71)	Methoxybenzene	苯甲醚	0.198	153.6	-37.5	1.517	4.33	4.2
(72)	Diethyl carbonate	碳酸二乙酯	0.194	126.8	-43	1.3837	2.82(20°)	3.0
(73)	Fluorobenzene	氟苯	194	84.7	-42.2	1.4684(15°)	5.42	4.9
(74)	1,1-Dichloroethene	1,1-二氯乙烯	0.194	31.6	-122.6	1.4247	4.82(20°)	4.3
(75)	Chlorobenzene	氯苯	0.188	131.7	-45.6	1.5248	5.62	5.4
(76)	Bromobenzene	溴苯	0.182	155.9	-30.8	1.5568	5.4	5.2
(77)	Ethoxybenzene	苯乙醚	0.182	169.8	-29.5	1.5074	4.22(20°)	4.5
(78)	Iodobenzene	碘苯	0.17	188.3	-31.35	1.62	4.49(20°)	4.7
(79)	1,1,1-Trichloroethane	1,1,1-三氯乙烷	0.17	74.1	-30.4	1.438	7.25(20°)	5.7
(80)	1,4-Dioxane	二噁烷	0.164	101.3	11.8	1.4224	2.21	1.5
(81)	Trichloroethene	三氯乙烯	0.16	87.2	-86.4	1.4773	3.42(16°)	2.7
(82)	t-Butyl methyl ether	叔丁基甲醚	0.148	55.2	-108.6	1.369	4.5(20°)	4.1
(83)	Piperidine	哌啶	0.148	106.2	-10.5	1.4525	5.8(20°)	4.0
(84)	Diethylamine	二乙基胺	0.145	55.55	-49.8	1.3846	3.78	4.0
(8)	Diphenyl ether	二苯醚	0.1	258.1	26.	1.576	3.69(	3.9

5)			42		9	3(30°)	20°)	
(8 6)	Diethylether	乙醚	0.1 17	344	- 116 .3	1.352 4	4.2	3.8
(8 7)	Benzene	苯	0.1 11	801	5.5	1.501 1	2.27	0.0
(8 8)	Di-n-propyl ether	二丙醚	0.1 02	90.1	- 123 .2	1.380 5	3.39( 26°)	4.4
(8 9)	Toluene	甲苯	0.0 99	110.6	-95	1.496 9	2.38	1.0
(9 0)	1,4-Dimethylbenzene	对二甲苯	0.0 74	138.4	13. 3	1.495 8	2.27( 20°)	0.0
(9 1)	Di-n-butyl ether	二丁醚	0.0 71	140.3	- 95. 2	1.399 2	3.08( 20°)	3.9
(9 2)	Carbon disulfide	二硫化碳	0.0 65	46.2	- 111 .6	1.627 5	2.64( 20°)	0.0
(9 3)	Tetrachloromethane	四氯甲烷	0.0 52	76.6	- 22. 8	14,60 2	2.23	0.0
(9 4)	Triethylamine	三乙基胺	0.0 43	88.9	- 114 .7	1.401	2.42( 20°)	2.9
(9 5)	Tri-n-butylamine	三丁基胺	0.0 43	214	-70	1.429 1	-	2.6
(9 6)	cis-Decahydro-naphthaline	顺十氢萘	0.0 15	195.8	-43	1.481	2.20( 20°)	0.0
(9 7)	n-Heptane	正庚烷	0.0 12	98.4	- 90. 6	1.387 6	1.92( 20°)	0.0
(9 8)	n-Hexane	正己烷	0.0 09	68.7	- 95. 3	1.374 9	1.88	0.0
(9 9)	n-Pentane	正戊烷	0.0 09	36.1	- 129 .7	1.357 5	1.84( 20°)	0.0
(1 00 )	Cyclohexane	环己烷	0.0 06	80.7	6.7	1.426 2	2.02( 20°)	0.0