DIPOLE MOMENTS

This table gives values of the electric dipole moment for about 800 molecules. When available, values determined by microwave spectroscopy, molecular beam electric resonance, and other high-resolution spectroscopic techniques were selected. Otherwise, the values come from measurements of the dielectric constant in the gas phase or, if these do not exist, in the liquid phase. Compounds are listed by molecular formula in Hill order; compounds not containing carbon are listed first, followed by compounds containing carbon.

The dipole moment μ is given in debye units (D). The conversion factor to SI units is 1 D = 3.33564×10^{-30} C m.

Dipole moments of individual conformers (rotational isomers) are given when they have been measured. The conformers are designated as *gauche, trans, axial*, etc. The meaning of these terms can be found in the references. In some cases an average value, obtained from measurements on the bulk gas, is also given. Other information on molecules that have been studied by spectroscopy, such as the components of the dipole moment in the molecular framework and the variation with vibrational state and isotopic species, is given in References 1 and 2.

When the accuracy of a value is explicitly stated (i.e., 1.234 ± 0.005), the stated uncertainty generally indicates two or three standard deviations. When no uncertainty is given, the value may be assumed to be precise to a few units in the last decimal place. However, if more than three decimal places are given, the exact interpretation of the final digits may require analysis of the vibrational averaging.

Values measured in the gas phase that are questionable because of undetermined error sources are indicated as approximate (≈). Values obtained by liquid phase measurements, which sometimes have large errors because of association effects, are enclosed in brackets, e.g., [1.8].

REFERENCES

1. Nelson, R. D., Lide, D. R., and Maryott, A. A., *Selected Values of Electric Dipole Moments for Molecules in the Gas Phase*, Natl. Stand. Ref. Data Ser. - Nat. Bur. Stnds. 10, 1967.
2. *Landolt-Börnstein, Numerical Data and Functional Relationships in Science and Technology, New Series*, II/6 (1974), II/14a (1982), II/14b (1983), II/19c (1992), Springer-Verlag, Heidelberg.
3. Riddick, J. A., Bunger, W. B., and Sakano, T. K., *Organic Solvents, Fourth Edition*, John Wiley & Sons, New York, 1986.

Mol. Form.	Name	μ/D
	Compounds not containing carbon	
AgBr	Silver(I) bromide	5.62 ± 0.03
AgCl	Silver(I) chloride	6.08 ± 0.06
AgF	Silver(I) fluoride	6.22 ± 0.30
AgI	Silver(I) iodide	4.55 ± 0.05
AlF	Aluminum monofluoride	1.53 ± 0.15
$AsCl_3$	Arsenic(III) chloride	1.59 ± 0.08
AsF_3	Arsenic(III) fluoride	2.59 ± 0.05
AsH_3	Arsine	0.217 ± 0.003
BClH2	Chloroborane	0.75 ± 0.05
BF	Fluoroborane(1)	≈0.5
BF_2H	Difluoroborane	0.971 ± 0.010
B_4H_{10}	Tetraborane	0.486 ± 0.002
B_5H_9	Pentaborane(9)	2.13 ± 0.04
B_6H_{10}	Hexaborane	2.50 ± 0.05
BaO	Barium oxide	7.954 ± 0.003
BaS	Barium sulfide	10.86 ± 0.02
BrCl	Bromine chloride	0.519 ± 0.004
BrF	Bromine fluoride	1.422 ± 0.016
BrF_3Si	Bromotrifluorosilane	0.83 ± 0.01
BrF_5	Bromine pentafluoride	1.51 ± 0.15
BrH	Hydrogen bromide	0.8272 ± 0.0003
BrH_3Si	Bromosilane	1.319
BrI	Iodine bromide	0.726 ± 0.003
BrK	Potassium bromide	10.628 ± 0.001
BrLi	Lithium bromide	7.268 ± 0.001
BrNO	Nitrosyl bromide	≈1.8
BrNa	Sodium bromide	9.1183 ± 0.0006
BrO	Bromine monoxide	1.76 ± 0.04
BrO_2	Bromine dioxide	2.8 ± 0.3
BrRb	Rubidium bromide	≈10.9
BrTl	Thallium(I) bromide	4.49 ± 0.05
CaCl	Calcium monochloride	≈3.6
ClCs	Cesium chloride	10.387 ± 0.004
ClF	Chlorine fluoride	0.888061
$ClFO_3$	Perchloryl fluoride	0.023 ± 0.001
ClF_3	Chlorine trifluoride	0.6 ± 0.10
ClF_3Si	Chlorotrifluorosilane	0.636 ± 0.004
$ClGeH_3$	Chlorogermane	2.13 ± 0.02
ClH	Hydrogen chloride	1.1086 ± 0.0003
ClHO	Hypochlorous acid	≈1.3
ClH_3Si	Chlorosilane	1.31 ± 0.01
ClI	Iodine chloride	1.24 ± 0.02
ClIn	Indium(I) chloride	3.79 ± 0.19
ClK	Potassium chloride	10.269 ± 0.001
ClLi	Lithium chloride	7.12887
$ClNO_2$	Nitryl chloride	0.53
ClNS	Thionitrosyl chloride	1.87 ± 0.02
ClNa	Sodium chloride	9.00117
ClO	Chlorine oxide	1.297 ± 0.001
ClRb	Rubidium chloride	10.510 ± 0.005
ClTl	Thallium(I) chloride	4.54299
Cl_2H_2Si	Dichlorosilane	1.17 ± 0.02
Cl_2OS	Thionyl chloride	1.45 ± 0.03
Cl_2O_2S	Sulfuryl chloride	1.81 ± 0.04
Cl_2S	Sulfur dichloride	0.36 ± 0.01
Cl_3FSi	Trichlorofluorosilane	0.49 ± 0.01
Cl_3HSi	Trichlorosilane	0.86 ± 0.01
Cl_3N	Nitrogen trichloride	0.39 ± 0.01
Cl_3OP	Phosphorus(V) oxychloride	2.54 ± 0.05
Cl_3P	Phosphorus(III) chloride	0.56 ± 0.02
CrO	Chromium monoxide	3.88 ± 0.13
CsF	Cesium fluoride	7.884 ± 0.001
CsNa	Cesium sodium	4.75 ± 0.20
CuF	Copper(I) fluoride	5.77 ± 0.29
CuO	Copper(II) oxide	4.5 ± 0.5
FGa	Gallium monofluoride	2.45 ± 0.05
$FGeH_3$	Fluorogermane	2.33 ± 0.12
FH	Hydrogen fluoride	1.826178
FHO	Hypofluorous acid	2.23 ± 0.11
FH_2N	Fluoramide	2.27 ± 0.18
FH_3Si	Fluorosilane	1.2969 ± 0.0006
FI	Iodine fluoride	1.948 ± 0.020

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
FIn	Indium(I) fluoride	3.40 ± 0.07
FK	Potassium fluoride	8.585 ± 0.003
FLi	Lithium fluoride	6.3274 ± 0.0002
FNO	Nitrosyl fluoride	1.730 ± 0.003
FNO_2	Nitryl fluoride	0.466 ± 0.005
FNS	Thionitrosyl fluoride (NSF)	1.902 ± 0.012
FN_3	Fluorine azide	≈1.3
FNa	Sodium fluoride	8.156 ± 0.001
FO	Fluorine oxide	0.0043 ± 0.0004
FRb	Rubidium fluoride	8.5465 ± 0.0005
FS	Sulfur monofluoride	0.794 ± 0.02
FTl	Thallium(I) fluoride	4.2282 ± 0.0008
F_2Ge	Germanium(II) fluoride	2.61 ± 0.02
F_2HN	Difluoramine	1.92 ± 0.02
F_2H_2Si	Difluorosilane	1.55 ± 0.02
F_2N_2	*cis*-Difluorodiazine	0.16 ± 0.01
F_2O	Fluorine monoxide	0.308180
F_2OS	Thionyl fluoride	1.63 ± 0.01
F_2O_2	Fluorine dioxide	1.44 ± 0.07
F_2O_2S	Sulfuryl fluoride	1.12 ± 0.02
F_2S	Sulfur difluoride	1.05 ± 0.05
F_2Si	Difluorosilylene	1.23 ± 0.02
F_3HSi	Trifluorosilane	1.27 ± 0.03
$F_3H_3Si_2$	1,1,1-Trifluorodisilane	2.03 ± 0.10
F_3ISi	Trifluoroiodosilane	1.11 ± 0.03
F_3N	Nitrogen trifluoride	0.235 ± 0.004
F_3NO	Trifluoramine oxide	0.0390 ± 0.0004
F_3OP	Phosphorus(V) oxyfluoride	1.8685 ± 0.0001
F_3P	Phosphorus(III) fluoride	1.03 ± 0.01
F_3PS	Phosphorus(V) sulfide trifluoride	0.64 ± 0.02
F_4N_2	Tetrafluorohydrazine (*gauche*)	0.257 ± 0.002
F_4S	Sulfur tetrafluoride	0.632 ± 0.003
F_4Se	Selenium tetrafluoride	1.78 ± 0.09
F_5I	Iodine pentafluoride	2.18 ± 0.11
GeH_3N_3	Germylazide	2.579 ± 0.003
GeO	Germanium(II) oxide	3.2823 ± 0.0001
GeS	Germanium(II) sulfide	2.00 ± 0.06
GeSe	Germanium(II) selenide	1.65 ± 0.05
GeTe	Germanium(II) telluride	1.06 ± 0.07
HI	Hydrogen iodide	0.448 ± 0.001
HKO	Potassium hydroxide	7.415 ± 0.002
HLi	Lithium hydride	5.884 ± 0.001
HLiO	Lithium hydroxide	4.754 ± 0.002
HN	Imidogen	1.39 ± 0.07
HNO	Nitrosyl hydride	1.62 ± 0.03
HNO_2	Nitrous acid (*cis*)	1.423 ± 0.005
HNO_2	Nitrous acid (*trans*)	1.855 ± 0.016
HNO_3	Nitric acid	2.17 ± 0.02
HN_3	Hydrazoic acid	1.70 ± 0.09
HO	Hydroxyl	1.655 ± 0.001
HS	Mercapto	0.7580 ± 0.0001
H_2O	Water	1.8546 ± 0.0040
H_2O_2	Hydrogen peroxide	1.573 ± 0.001
H_2S	Hydrogen sulfide	0.97833
H_3N	Ammonia	1.4718 ± 0.0002
H_3NO	Hydroxylamine	0.59 ± 0.05
H_3P	Phosphine	0.5740 ± 0.0003
H_3Sb	Stibine	0.12 ± 0.05
H_4N_2	Hydrazine	1.75 ± 0.09
H_6OSi_2	Disiloxane	0.24 ± 0.02
IK	Potassium iodide	≈10.8
ILi	Lithium iodide	7.428 ± 0.001
INa	Sodium iodide	9.236 ± 0.003
IO	Iodine monoxide	2.45 ± 0.05
IRb	Rubidium iodide	≈11.5
ITl	Thallium(I) iodide	4.61 ± 0.07
KLi	Lithium potassium	3.45 ± 0.20
KNa	Potassium sodium	2.693 ± 0.014
LaO	Lanthanum monoxide	3.207 ± 0.011
LiNa	Lithium sodium	0.463 ± 0.002
LiO	Lithium monoxide	6.84 ± 0.03
LiRb	Lithium rubidium	4.0 ± 0.1
MgO	Magnesium oxide	6.2 ± 0.6
NO	Nitric oxide	0.15872
NO_2	Nitrogen dioxide	0.316 ± 0.010
NP	Phosphorus nitride	2.7470 ± 0.0001
NS	Nitrogen sulfide	1.81 ± 0.02
N_2O	Nitrous oxide	0.16083
N_2O_3	Nitrogen trioxide	2.122 ± 0.010
NaRb	Rubidium sodium	3.1 ± 0.3
OP	Phosphorus monoxide	1.88 ± 0.07
OPb	Lead(II) oxide	4.64 ± 0.50
OS	Sulfur monoxide	1.55 ± 0.02
OS_2	Sulfur oxide (SSO)	1.47 ± 0.03
OSi	Silicon monoxide	3.0982
OSn	Tin(II) oxide	4.32 ± 0.22
OSr	Strontium oxide	8.900 ± 0.003
OTi	Titanium(II) oxide	2.96 ± 0.05
OY	Yttrium monoxide	4.524 ± 0.007
OZr	Zirconium(II) oxide	2.55 ± 0.01
O_2S	Sulfur dioxide	1.63305
O_2Se	Selenium dioxide	2.62 ± 0.05
O_2Zr	Zirconium(IV) oxide	7.80 ± 0.02
O_3	Ozone	0.53373
PbS	Lead(II) sulfide	3.59 ± 0.18
SSi	Silicon monosulfide	1.73 ± 0.09
SSn	Tin(II) sulfide	3.18 ± 0.16

Compounds containing carbon

$CBrF_3$	Bromotrifluoromethane	0.65 ± 0.05
CBr_2F_2	Dibromodifluoromethane	0.66 ± 0.05
$CClF_3$	Chlorotrifluoromethane	0.50 ± 0.01
CClN	Cyanogen chloride	2.8331 ± 0.0002
CCl_2F_2	Dichlorodifluoromethane	0.51 ± 0.05
CCl_2O	Carbonyl chloride	1.17 ± 0.01
CCl_3F	Trichlorofluoromethane	0.46 ± 0.02
CF	Fluoromethylidyne	0.645 ± 0.005
CFN	Cyanogen fluoride	2.120 ± 0.001
CF_2	Difluoromethylene	0.47 ± 0.02
CF_2O	Carbonyl fluoride	0.95 ± 0.01
CF_3I	Trifluoroiodomethane	1.048 ± 0.003
CH	Methylidyne	≈1.46
CHBrClF	Bromochlorofluoromethane	1.5 ± 0.3
$CHBr_3$	Tribromomethane	0.99 ± 0.02
$CHClF_2$	Chlorodifluoromethane	1.42 ± 0.03
$CHCl_2F$	Dichlorofluoromethane	1.29 ± 0.03
$CHCl_3$	Trichloromethane	1.04 ± 0.02
CHFO	Formyl fluoride	2.081 ± 0.001
CHF_2N	Carboimidic difluoride	1.393 ± 0.001
CHF_3	Trifluoromethane	1.65150
CHN	Hydrogen cyanide	2.985188

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
CHN	Hydrogen isocyanide	3.05 ± 0.15
CHNO	Isocyanic acid (HNCO)	≈1.6
CHNO	Fulminic acid	3.09934
CH_2BrCl	Bromochloromethane	[1.66]
CH_2Br_2	Dibromomethane	1.43 ± 0.03
CH_2ClF	Chlorofluoromethane	1.82 ± 0.04
CH_2Cl_2	Dichloromethane	1.60 ± 0.03
CH_2F_2	Difluoromethane	1.9785 ± 0.02
CH_2I_2	Diiodomethane	[1.08]
CH_2N_2	Diazomethane	1.50 ± 0.01
CH_2N_2	Cyanamide	4.28 ± 0.10
CH_2N_4	1H-Tetrazole	2.19 ± 0.05
CH_2O	Formaldehyde	2.332 ± 0.002
CH_2O_2	Formic acid	1.425 ± 0.002
CH_2S	Thioformaldehyde	1.6491 ± 0.0004
CH_2Se	Selenoformaldehyde	1.41 ± 0.01
CH_3BCl_2	Dichloromethylborane	1.419 ± 0.013
CH_3BF_2	Difluoromethylborane	1.668 ± 0.003
CH_3BO	Borane carbonyl	1.698 ± 0.020
CH_3Br	Bromomethane	1.8203 ± 0.0004
CH_3Cl	Chloromethane	1.8963 ± 0.0002
CH_3Cl_3Si	Methyltrichlorosilane	1.91 ± 0.01
CH_3F	Fluoromethane	1.858 ± 0.002
CH_3F_2OP	Methylphosphonic difluoride	3.69 ± 0.26
CH_3F_2P	Methyldifluorophosphine	2.056 ± 0.006
CH_3F_3Si	Trifluoromethylsilane	2.3394 ± 0.0002
CH_3F_3Si	(Trifluoromethyl)silane	2.32 ± 0.02
CH_3I	Iodomethane	1.6406 ± 0.0004
CH_3NO	Formamide	3.73 ± 0.07
CH_3NO_2	Nitromethane	3.46 ± 0.02
CH_3N_3	Methyl azide	2.17 ± 0.04
CH_4O	Methanol	1.70 ± 0.02
CH_4O_2	Methylhydroperoxide	≈0.65
CH_4S	Methanethiol	1.52 ± 0.08
CH_5FSi	Fluoromethylsilane	1.700 ± 0.008
CH_5ISi	Iodomethylsilane	1.862 ± 0.005
CH_5N	Methylamine	1.31 ± 0.03
CH_6OSi	Methyl silyl ether	1.15 ± 0.02
CH_6Si	Methylsilane	0.73456
CH_8B_2	Methyldiborane(6)	0.566 ± 0.006
CIN	Cyanogen iodide	3.67 ± 0.02
CO	Carbon monoxide	0.10980
COS	Carbon oxysulfide	0.715189
COSe	Carbon oxyselenide	0.73 ± 0.02
CS	Carbon monosulfide	1.958 ± 0.005
CSe	Carbon monoselenide	1.99 ± 0.04
C_2BrF	Bromofluoroacetylene	0.448 ± 0.002
C_2ClF_3	Chlorotrifluoroethene	0.40 ± 0.10
C_2ClF_5	Chloropentafluoroethane	0.52 ± 0.05
$C_2Cl_2F_2$	1,1-Dichloro-2,2-difluoroethene	0.50
$C_2Cl_2F_4$	1,2-Dichloro-1,1,2,2-tetrafluoroethane	≈0.5
C_2F_3N	Trifluoroacetonitrile	1.262 ± 0.010
C_2F_3N	Trifluoroisocyanomethane	1.153 ± 0.010
C_2HBr	Bromoacetylene	0.22962
C_2HCl	Chloroacetylene	0.44408
C_2HCl_3	Trichloroethene	[0.8]
C_2HCl_5	Pentachloroethane	0.92 ± 0.05
C_2HF	Fluoroacetylene	0.7207 ± 0.0003
C_2HF_3	Trifluoroethene	1.32 ± 0.03
$C_2HF_3O_2$	Trifluoroacetic acid	2.28 ± 0.25
C_2HI	Iodoacetylene	0.02525
$C_2H_2Br_4$	1,1,2,2-Tetrabromoethane	[1.38]
$C_2H_2Cl_2$	1,1-Dichloroethene	1.34 ± 0.01
$C_2H_2Cl_2$	*cis*-1,2-Dichloroethene	1.90 ± 0.04
$C_2H_2Cl_2O$	Chloroacetyl chloride	2.23 ± 0.11
$C_2H_2Cl_4$	1,1,2,2-Tetrachloroethane	1.32 ± 0.07
$C_2H_2F_2$	1,1-Difluoroethene	1.3893 ± 0.0002
$C_2H_2F_2$	*cis*-1,2-Difluoroethene	2.42 ± 0.02
$C_2H_2F_4$	1,1,1,2-Tetrafluoroethane	1.80 ± 0.22
$C_2H_2N_2S$	1,2,5-Thiadiazole	1.579 ± 0.007
C_2H_2O	Ketene	1.42215
$C_2H_2O_2$	Glyoxal (*cis*)	4.8 ± 0.2
C_2H_3Br	Bromoethene	1.42 ± 0.03
C_2H_3Cl	Chloroethene	1.45 ± 0.03
$C_2H_3ClF_2$	1-Chloro-1,1-difluoroethane	2.14 ± 0.04
C_2H_3ClO	Acetyl chloride	2.72 ± 0.14
$C_2H_3Cl_3$	1,1,1-Trichloroethane	1.755 ± 0.015
$C_2H_3Cl_3$	1,1,2-Trichloroethane	[1.4]
C_2H_3F	Fluoroethene	1.468 ± 0.003
C_2H_3FO	Acetyl fluoride	2.96 ± 0.03
$C_2H_3F_3$	1,1,1-Trifluoroethane	2.3470 ± 0.005
C_2H_3HgN	Cyanomethylmercury	4.7 ± 0.1
C_2H_3I	Iodoethene	1.311 ± 0.005
C_2H_3N	Acetonitrile	3.92519
C_2H_3NO	Methyl cyanate	4.26 ± 0.18
C_2H_3NO	Methyl isocyanate	≈2.8
C_2H_3NS	Methyl isothiocyanate	3.453 ± 0.003
$C_2H_3N_3$	1H-1,2,4-Triazole	2.7 ± 0.1
C_2H_4BrCl	1-Bromo-2-chloroethane	[1.2]
$C_2H_4Br_2$	1,2-Dibromoethane	[1.19]
C_2H_4ClF	1-Chloro-1-fluoroethane	2.068 ± 0.014
$C_2H_4Cl_2$	1,1-Dichloroethane	2.06 ± 0.04
$C_2H_4Cl_2$	1,2-Dichloroethane	[1.83]
$C_2H_4F_2$	1,1-Difluoroethane	2.27 ± 0.05
$C_2H_4F_2$	1,2-Difluoroethane (*gauche*)	2.67 ± 0.13
C_2H_4O	Acetaldehyde	2.750 ± 0.006
C_2H_4O	Ethylene oxide	1.89 ± 0.01
$C_2H_4O_2$	Acetic acid	1.70 ± 0.03
$C_2H_4O_2$	Methyl formate	1.77 ± 0.04
$C_2H_4O_2$	Glycolaldehyde	2.73 ± 0.05
C_2H_5Br	Bromoethane	2.04 ± 0.02
C_2H_5Cl	Chloroethane	2.05 ± 0.02
C_2H_5ClO	2-Chloroethanol	1.78 ± 0.09
$C_2H_5Cl_3Si$	Trichloroethylsilane	[2.04]
C_2H_5F	Fluoroethane	1.937 ± 0.007
C_2H_5I	Iodoethane	1.976 ± 0.002
C_2H_5N	Ethyleneimine	1.90 ± 0.01
C_2H_5NO	Acetamide	3.68 ± 0.03
C_2H_5NO	*N*-Methylformamide	3.83 ± 0.08
$C_2H_5NO_2$	Nitroethane	3.23 ± 0.03
C_2H_6O	Ethanol (*gauche*)	1.68 ± 0.03
C_2H_6O	Ethanol (*trans*)	1.44 ± 0.03
C_2H_6O	Ethanol (*average*)	1.69 ± 0.03
C_2H_6O	Dimethyl ether	1.30 ± 0.01
C_2H_6OS	Dimethyl sulfoxide	3.96 ± 0.04
$C_2H_6O_2$	Ethylene glycol (*average*)	2.36 ± 0.10
C_2H_6S	Ethanethiol (*gauche*)	1.61 ± 0.08
C_2H_6S	Ethanethiol (*trans*)	1.58 ± 0.08
C_2H_6S	Dimethyl sulfide	1.554 ± 0.004
$C_2H_6S_2$	1,2-Ethanedithiol	2.03 ± 0.08
$C_2H_6S_2$	Dimethyl disulfide	[1.85]

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
C_2H_6Si	Vinylsilane	0.657 ± 0.002
C_2H_7N	Ethylamine (*gauche*)	1.210 ± 0.015
C_2H_7N	Ethylamine (*trans*)	1.304 ± 0.011
C_2H_7N	Ethylamine (*average*)	1.22 ± 0.10
C_2H_7N	Dimethylamine	1.01 ± 0.02
C_2H_7NO	Ethanolamine	[2.27]
$C_2H_8N_2$	1,2-Ethanediamine	1.99 ± 0.10
C_3HF_3	3,3,3-Trifluoro-1-propyne	2.317 ± 0.013
C_3HN	Cyanoacetylene	3.73172
$C_3H_2F_2$	3,3-Difluorocyclopropene	2.98 ± 0.02
C_3H_2O	2-Propynal	2.78 ± 0.02
$C_3H_3Cl_2F$	1,1-Dichloro-2-fluoropropene	2.43 ± 0.02
C_3H_3F	3-Fluoropropyne	1.73 ± 0.02
$C_3H_3F_3$	3,3,3-Trifluoropropene	2.45 ± 0.05
C_3H_3N	Acrylonitrile	3.92 ± 0.07
C_3H_3NO	Oxazole	1.503 ± 0.030
C_3H_3NO	Isoxazole	2.95 ± 0.04
C_3H_4	Propyne	0.784 ± 0.001
C_3H_4	Cyclopropene	0.454 ± 0.010
$C_3H_4F_2$	1,1-Difluoro-1-propene	0.889 ± 0.007
$C_3H_4N_2$	1*H*-Pyrazole	2.20 ± 0.01
$C_3H_4N_2$	Imidazole	3.8 ± 0.4
C_3H_4O	Propargyl alcohol	1.13 ± 0.06
C_3H_4O	Acrolein (*trans*)	3.117 ± 0.004
C_3H_4O	Acrolein (*cis*)	2.552 ± 0.003
C_3H_4O	Cyclopropanone	2.67 ± 0.13
$C_3H_4O_2$	Vinyl formate	1.49 ± 0.01
$C_3H_4O_2$	2-Oxetanone	4.18 ± 0.03
$C_3H_4O_2$	3-Oxetanone	0.887 ± 0.005
$C_3H_4O_3$	Ethylene carbonate	[4.9]
C_3H_5Br	2-Bromopropene	[1.51]
C_3H_5Br	3-Bromopropene	≈1.9
C_3H_5Cl	*cis*-1-Chloropropene	1.67 ± 0.08
C_3H_5Cl	*trans*-1-Chloropropene	1.97 ± 0.10
C_3H_5Cl	2-Chloropropene	1.647 ± 0.010
C_3H_5Cl	3-Chloropropene	1.94 ± 0.10
C_3H_5ClO	Epichlorohydrin	[1.8]
C_3H_5F	*cis*-1-Fluoropropene	1.46 ± 0.03
C_3H_5F	*trans*-1-Fluoropropene	≈1.9
C_3H_5F	2-Fluoropropene	1.61 ± 0.03
C_3H_5F	3-Fluoropropene (*gauche*)	1.939 ± 0.015
C_3H_5F	3-Fluoropropene (*cis*)	1.765 ± 0.014
C_3H_5N	Propanenitrile	4.05 ± 0.03
C_3H_5NO	Ethyl cyanate	4.72 ± 0.09
C_3H_5NO	3-Hydroxypropanenitrile (*gauche*)	3.17 ± 0.02
C_3H_6	Propene	0.366 ± 0.001
$C_3H_6Br_2$	1,2-Dibromopropane	[1.2]
$C_3H_6Cl_2$	1,2-Dichloropropane	[1.85]
$C_3H_6Cl_2$	1,3-Dichloropropane	2.08 ± 0.04
C_3H_6O	Acetone	2.88 ± 0.03
C_3H_6O	Propanal (*gauche*)	2.86 ± 0.01
C_3H_6O	Propanal (*cis*)	2.52 ± 0.05
C_3H_6O	Propanal (*average*)	2.72
C_3H_6O	Allyl alcohol (*gauche*)	1.55 ± 0.08
C_3H_6O	Allyl alcohol (*average*)	1.60 ± 0.08
C_3H_6O	Methyl vinyl ether	0.965 ± 0.002
C_3H_6O	Methyloxirane	2.01 ± 0.02
C_3H_6O	Oxetane	1.94 ± 0.01
$C_3H_6O_2$	Propanoic acid (*cis*)	1.46 ± 0.07
$C_3H_6O_2$	Propanoic acid (*average*)	1.75 ± 0.09
$C_3H_6O_2$	Ethyl formate (*gauche*)	1.81 ± 0.02
$C_3H_6O_2$	Ethyl formate (*trans*)	1.98 ± 0.02
$C_3H_6O_2$	Ethyl formate (*average*)	1.93
$C_3H_6O_2$	Methyl acetate	1.72 ± 0.09
$C_3H_6O_2$	1,3-Dioxolane	1.19 ± 0.06
$C_3H_6O_2S$	Thietane 1,1-dioxide	4.8 ± 0.1
$C_3H_6O_3$	1,3,5-Trioxane	2.08 ± 0.02
C_3H_6S	Thiacyclobutane	1.85 ± 0.09
C_3H_7Br	1-Bromopropane	2.18 ± 0.11
C_3H_7Br	2-Bromopropane	2.21 ± 0.11
C_3H_7Cl	1-Chloropropane (*gauche*)	2.02 ± 0.03
C_3H_7Cl	1-Chloropropane (*trans*)	1.95 ± 0.02
C_3H_7Cl	1-Chloropropane (*average*)	2.05 ± 0.04
C_3H_7Cl	2-Chloropropane	2.17 ± 0.11
C_3H_7F	1-Fluoropropane (*gauche*)	1.90 ± 0.10
C_3H_7F	1-Fluoropropane (*trans*)	2.05 ± 0.04
C_3H_7F	2-Fluoropropane	1.958 ± 0.001
C_3H_7I	1-Iodopropane	2.04 ± 0.10
C_3H_7I	2-Iodopropane	[1.95]
C_3H_7N	Allylamine	≈1.2
C_3H_7N	Cyclopropylamine	1.19 ± 0.01
C_3H_7N	Propyleneimine (*cis*)	1.77 ± 0.09
C_3H_7N	Propyleneimine (*trans*)	1.57 ± 0.03
C_3H_7NO	*N*,*N*-Dimethylformamide	3.82 ± 0.08
C_3H_7NO	*N*-Methylacetamide	[4.3]
$C_3H_7NO_2$	1-Nitropropane	3.66 ± 0.07
$C_3H_7NO_2$	2-Nitropropane	3.73 ± 0.07
C_3H_8	Propane	0.084 ± 0.001
C_3H_8O	1-Propanol (*gauche*)	1.58 ± 0.03
C_3H_8O	1-Propanol (*trans*)	1.55 ± 0.03
C_3H_8O	2-Propanol (*trans*)	1.58 ± 0.03
C_3H_8O	Ethyl methyl ether (*trans*)	1.17 ± 0.02
$C_3H_8O_2$	1,2-Propylene glycol	[2.25]
$C_3H_8O_2$	1,3-Propylene glycol	[2.55]
$C_3H_8O_2$	Ethylene glycol monomethyl ether (*gauche*)	2.36 ± 0.05
$C_3H_8O_2$	Dimethoxymethane	[0.74]
$C_3H_8O_3$	Glycerol	[2.56]
C_3H_8S	1-Propanethiol (*gauche*)	1.683 ± 0.010
C_3H_8S	1-Propanethiol (*trans*)	1.60 ± 0.08
C_3H_8S	2-Propanethiol (*gauche*)	1.53 ± 0.03
C_3H_8S	2-Propanethiol (*trans*)	1.61 ± 0.03
C_3H_8S	Ethyl methyl sulfide (*gauche*)	1.593 ± 0.004
C_3H_8S	Ethyl methyl sulfide (*trans*)	1.56 ± 0.03
C_3H_9N	Propylamine	1.17 ± 0.06
C_3H_9N	Isopropylamine	1.19 ± 0.06
C_3H_9N	Trimethylamine	0.612 ± 0.003
$C_3H_9O_4P$	Trimethyl phosphate	[3.18]
C_4H_4	1-Buten-3-yne	0.22 ± 0.02
C_4H_4	Methylenecyclopropene	1.90 ± 0.01
$C_4H_4N_2$	Succinonitrile	[3.7]
$C_4H_4N_2$	Pyrimidine	2.334 ± 0.010
$C_4H_4N_2$	Pyridazine	4.22 ± 0.02
C_4H_4O	Furan	0.66 ± 0.01
$C_4H_4O_2$	Diketene	3.53 ± 0.07
C_4H_4S	Thiophene	0.55 ± 0.01
C_4H_5N	2-Methylacrylonitrile	3.69 ± 0.18
C_4H_5N	Pyrrole	1.767 ± 0.001
C_4H_5N	Isocyanocyclopropane	4.03 ± 0.10
C_4H_5NO	2-Methyloxazole	1.37 ± 0.07
C_4H_5NO	4-Methyloxazole	1.08 ± 0.05

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
C_4H_5NO	5-Methyloxazole	2.16 ± 0.04
C_4H_5NO	4-Methylisoxazole	3.583 ± 0.005
C_4H_6	1,2-Butadiene	0.403 ± 0.002
C_4H_6	1-Butyne	0.782 ± 0.004
C_4H_6	Cyclobutene	0.132 ± 0.001
C_4H_6O	Divinyl ether	0.78 ± 0.05
C_4H_6O	3-Methoxy-1,2-propadiene	0.963 ± 0.020
C_4H_6O	*trans*-2-Butenal	3.67 ± 0.07
C_4H_6O	2-Methylpropenal	2.68 ± 0.13
C_4H_6O	Cyclobutanone	2.89 ± 0.03
C_4H_6O	2,3-Dihydrofuran	1.32 ± 0.03
C_4H_6O	2,5-Dihydrofuran	1.63 ± 0.01
$C_4H_6O_2$	*trans*-Crotonic acid	[2.13]
$C_4H_6O_2$	Methacrylic acid	[1.65]
$C_4H_6O_2$	Vinyl acetate	[1.79]
$C_4H_6O_2$	Methyl acrylate	[1.77]
$C_4H_6O_2$	γ-Butyrolactone	4.27 ± 0.03
$C_4H_6O_2$	2,3-Dihydro-1,4-dioxin	0.939 ± 0.008
$C_4H_6O_2$	3,6-Dihydro-1,2-dioxin	2.329 ± 0.001
$C_4H_6O_3$	Acetic anhydride	≈2.8
$C_4H_6O_3$	Propylene carbonate	[4.9]
C_4H_6S	2,3-Dihydrothiophene	1.61 ± 0.20
C_4H_6S	2,5-Dihydrothiophene	1.75 ± 0.01
C_4H_7N	Butanenitrile (*gauche*)	3.91 ± 0.04
C_4H_7N	Butanenitrile (*anti*)	3.73 ± 0.06
C_4H_7N	2-Methylpropanenitrile	4.29 ± 0.09
C_4H_7N	2-Isocyanopropane	4.055 ± 0.001
C_4H_7NO	2-Pyrrolidone	[3.5]
C_4H_8	1-Butene (*cis*)	0.438 ± 0.007
C_4H_8	1-Butene (*skew*)	0.359 ± 0.011
C_4H_8	*cis*-2-Butene	0.253 ± 0.005
C_4H_8	Isobutene	0.503 ± 0.010
C_4H_8	Methylcyclopropane	0.139 ± 0.004
$C_4H_8Cl_2$	1,4-Dichlorobutane	2.22 ± 0.11
$C_4H_8Cl_2O$	Bis(2-chloroethyl) ether	[2.58]
C_4H_8O	*cis*-2-Buten-1-ol	1.96 ± 0.03
C_4H_8O	*trans*-2-Buten-1-ol	1.90 ± 0.02
C_4H_8O	2-Methyl-2-propenol (*skew*)	1.295 ± 0.022
C_4H_8O	Ethyl vinyl ether	[1.26]
C_4H_8O	1,2-Epoxybutane	1.891 ± 0.011
C_4H_8O	Butanal	2.72 ± 0.05
C_4H_8O	Isobutanal (*gauche*)	2.69 ± 0.01
C_4H_8O	Isobutanal (*trans*)	2.86 ± 0.01
C_4H_8O	2-Butanone	2.779 ± 0.015
C_4H_8O	Tetrahydrofuran	1.75 ± 0.04
C_4H_8OS	1,4-Oxathiane	0.295 ± 0.003
$C_4H_8O_2$	Butanoic acid	[1.65]
$C_4H_8O_2$	2-Methylpropanoic acid	[1.08]
$C_4H_8O_2$	Propyl formate	[1.89]
$C_4H_8O_2$	Ethyl acetate	1.78 ± 0.09
$C_4H_8O_2$	*cis*-2-Butene-1,4-diol	[2.48]
$C_4H_8O_2$	*trans*-2-Butene-1,4-diol	[2.45]
$C_4H_8O_2$	1,3-Dioxane	2.06 ± 0.04
$C_4H_8O_2S$	Sulfolane	[4.8]
C_4H_8S	3-Methylthietane	2.046 ± 0.009
C_4H_8S	Tetrahydrothiophene	[1.90]
$C_4H_8S_2$	1,3-Dithiane	2.14 ± 0.04
C_4H_9Br	1-Bromobutane	2.08 ± 0.10
C_4H_9Br	2-Bromobutane	2.23 ± 0.11
C_4H_9Br	2-Bromo-2-methylpropane	[2.17]
C_4H_9Cl	1-Chlorobutane	2.05 ± 0.04
C_4H_9Cl	2-Chlorobutane	2.04 ± 0.10
C_4H_9Cl	1-Chloro-2-methylpropane	2.00 ± 0.10
C_4H_9Cl	2-Chloro-2-methylpropane	2.13 ± 0.04
C_4H_9I	1-Iodobutane	[1.93]
C_4H_9I	2-Iodobutane	2.12 ± 0.11
C_4H_9I	1-Iodo-2-methylpropane	[1.87]
C_4H_9N	Pyrrolidine	[1.57]
C_4H_9NO	*N*-Methylpropanamide	3.61
C_4H_9NO	*N,N*-Dimethylacetamide	[3.7]
C_4H_9NO	Morpholine	1.55 ± 0.03
C_4H_{10}	Isobutane	0.132 ± 0.002
$C_4H_{10}O$	1-Butanol	1.66 ± 0.03
$C_4H_{10}O$	2-Butanol	[1.8]
$C_4H_{10}O$	2-Methyl-1-propanol	1.64 ± 0.08
$C_4H_{10}O$	2-Methyl-2-propanol	[1.66]
$C_4H_{10}O$	Diethyl ether	1.15 ± 0.02
$C_4H_{10}O$	Methyl propyl ether (*trans-trans*)	1.107 ± 0.013
$C_4H_{10}O$	Isopropyl methyl ether	1.247 ± 0.003
$C_4H_{10}O_2$	1,4-Butanediol	[2.58]
$C_4H_{10}O_2$	Ethylene glycol monoethyl ether	[2.08]
$C_4H_{10}O_3$	Diethylene glycol	[2.31]
$C_4H_{10}S$	1-Butanethiol	[1.53]
$C_4H_{10}S$	2-Methyl-2-propanethiol	1.66 ± 0.03
$C_4H_{10}S$	Diethyl sulfide	1.54 ± 0.08
$C_4H_{11}N$	Butylamine	≈1.0
$C_4H_{11}N$	*sec*-Butylamine	[1.28]
$C_4H_{11}N$	*tert*-Butylamine	[1.29]
$C_4H_{11}N$	Isobutylamine	[1.27]
$C_4H_{11}N$	Diethylamine	0.92 ± 0.05
$C_4H_{11}NO_2$	Diethanolamine	[2.8]
$C_4H_{13}N_3$	Diethylenetriamine	[1.89]
C_5F_5N	Perfluoropyridine	0.98 ± 0.08
C_5H_3NS	2-Thiophenecarbonitrile	4.59 ± 0.02
C_5H_3NS	3-Thiophenecarbonitrile	4.13 ± 0.02
C_5H_4	1,3-Pentadiyne	1.207 ± 0.001
C_5H_4ClN	4-Chloropyridine	0.756 ± 0.005
C_5H_4FN	3-Fluoropyridine	2.09 ± 0.26
C_5H_4O	2,4-Cyclopentadien-1-one	3.132 ± 0.007
C_5H_4OS	4H-Pyran-4-thione	3.95 ± 0.05
$C_5H_4O_2$	Furfural	[3.54]
$C_5H_4O_2$	4H-Pyran-4-one	3.79 ± 0.02
$C_5H_4S_2$	4H-Thiopyran-4-thione	3.9 ± 0.2
C_5H_5N	Pyridine	2.215 ± 0.010
C_5H_6	1,2,3-Pentatriene	0.51 ± 0.05
C_5H_6	1-Penten-3-yne	0.66 ± 0.02
C_5H_6	*cis*-3-Penten-1-yne	0.78 ± 0.02
C_5H_6	*trans*-3-Penten-1-yne	1.06 ± 0.05
C_5H_6	2-Methyl-1-buten-3-yne	0.513 ± 0.02
C_5H_6	1,3-Cyclopentadiene	0.419 ± 0.004
$C_5H_6N_2$	2-Methylpyrimidine	1.676 ± 0.010
$C_5H_6N_2$	5-Methylpyrimidine	2.881 ± 0.006
C_5H_6O	2-Methylfuran	0.65 ± 0.05
C_5H_6O	3-Methylfuran	1.03 ± 0.02
C_5H_6O	3-Cyclopenten-1-one	2.79 ± 0.03
$C_5H_6O_2$	5-Methyl-2(3H)-furanone	4.08 ± 0.02
$C_5H_6O_2$	Furfuryl alcohol	[1.92]
C_5H_6S	2-Methylthiophene	0.674 ± 0.005
C_5H_6S	3-Methylthiophene	0.914 ± 0.015
C_5H_7N	3-Methyl-2-butenenitrile	4.61 ± 0.13
C_5H_7N	Cyclobutanecarbonitrile	4.04 ± 0.04
$C_5H_7NO_2$	Ethyl cyanoacetate	[2.17]

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
C_5H_8	*cis*-1,3-Pentadiene	0.500 ± 0.015
C_5H_8	*trans*-1,3-Pentadiene	0.585 ± 0.010
C_5H_8	2-Methyl-1,3-butadiene	0.25 ± 0.01
C_5H_8	1-Pentyne (*gauche*)	0.769 ± 0.028
C_5H_8	1-Pentyne (*trans*)	0.842 ± 0.010
C_5H_8	Cyclopentene	0.20 ± 0.02
C_5H_8	3,3-Dimethylcyclopropene	0.287 ± 0.003
C_5H_8O	Cyclopropyl methyl ketone	2.62 ± 0.25
C_5H_8O	Cyclopentanone	≈3.3
C_5H_8O	3,4-Dihydro-2H-pyran	1.400 ± 0.008
C_5H_8O	3,6-Dihydro-2H-pyran	1.283 ± 0.005
$C_5H_8O_2$	Ethyl acrylate	[1.96]
$C_5H_8O_2$	Methyl methacrylate	[1.67]
$C_5H_8O_2$	2,4-Pentanedione	[2.78]
$C_5H_8O_2$	Dihydro-3-methyl-2(3H)-furanone	4.56 ± 0.02
$C_5H_8O_2$	Dihydro-5-methyl-2(3H)-furanone	4.71 ± 0.05
$C_5H_8O_2$	Tetrahydro-4H-pyran-4-one	1.720 ± 0.003
C_5H_9N	Pentanenitrile	4.12 ± 0.08
C_5H_9N	2,2-Dimethylpropanenitrile	3.95 ± 0.04
C_5H_9N	1,2,5,6-Tetrahydropyridine	1.007 ± 0.003
C_5H_9NO	*N*-Methyl-2-pyrrolidone	[4.1]
C_5H_{10}	1-Pentene	≈0.5
C_5H_{10}	3-Methyl-1-butene (*gauche*)	0.398 ± 0.004
C_5H_{10}	3-Methyl-1-butene (*trans*)	0.320 ± 0.010
C_5H_{10}	1,1-Dimethylcyclopropane	0.142 ± 0.001
$C_5H_{10}O$	2,2-Dimethylpropanal	2.66 ± 0.05
$C_5H_{10}O$	2-Pentanone	[2.70]
$C_5H_{10}O$	3-Pentanone	[2.82]
$C_5H_{10}O$	Tetrahydropyran (*chair*)	1.58 ± 0.03
$C_5H_{10}O_2$	Pentanoic acid	[1.61]
$C_5H_{10}O_2$	3-Methylbutanoic acid	[0.63]
$C_5H_{10}O_2$	Butyl formate	[2.03]
$C_5H_{10}O_2$	Isobutyl formate	[1.88]
$C_5H_{10}O_2$	Propyl acetate	[1.78]
$C_5H_{10}O_2$	Ethyl propanoate	[1.74]
$C_5H_{10}O_2$	Tetrahydrofurfuryl alcohol	[2.1]
$C_5H_{10}O_3$	Diethyl carbonate	1.10 ± 0.06
$C_5H_{10}O_3$	Ethylene glycol monomethyl ether acetate	[2.13]
$C_5H_{10}O_3$	Ethyl lactate	[2.4]
$C_5H_{10}S$	Thiacyclohexane	1.781 ± 0.010
$C_5H_{11}Br$	1-Bromopentane	2.20 ± 0.11
$C_5H_{11}Cl$	1-Chloropentane	2.16 ± 0.11
$C_5H_{11}Cl$	1-Chloro-3-methylbutane	[1.92]
$C_5H_{11}N$	Piperidine (*equitorial*)	0.82 ± 0.02
$C_5H_{11}N$	Piperidine (*axial*)	1.19 ± 0.02
$C_5H_{11}N$	Piperidine (*average*)	[1.19]
$C_5H_{11}N$	*N*-Methylpyrrolidine	0.572 ± 0.003
C_5H_{12}	Isopentane	0.13 ± 0.05
$C_5H_{12}N_2O$	Tetramethylurea	[3.5]
$C_5H_{12}O$	1-Pentanol	[1.7]
$C_5H_{12}O$	2-Pentanol	[1.66]
$C_5H_{12}O$	3-Pentanol	[1.64]
$C_5H_{12}O$	2-Methyl-1-butanol	[1.88]
$C_5H_{12}O$	2-Methyl-2-butanol	[1.82]
$C_5H_{12}O_2$	1,5-Pentanediol	[2.5]
$C_5H_{12}O_3$	Diethylene glycol monomethyl ether	[1.6]
$C_6H_2F_4$	1,2,3,4-Tetrafluorobenzene	2.42 ± 0.05
$C_6H_2F_4$	1,2,3,5-Tetrafluorobenzene	1.46 ± 0.06
$C_6H_3F_3$	1,2,4-Trifluorobenzene	1.402 ± 0.009
$C_6H_4ClNO_2$	1-Chloro-2-nitrobenzene	4.64 ± 0.09
$C_6H_4ClNO_2$	1-Chloro-3-nitrobenzene	3.73 ± 0.07
$C_6H_4ClNO_2$	1-Chloro-4-nitrobenzene	2.83 ± 0.06
$C_6H_4Cl_2$	*o*-Dichlorobenzene	2.50 ± 0.05
$C_6H_4Cl_2$	*m*-Dichlorobenzene	1.72 ± 0.09
$C_6H_4FNO_2$	1-Fluoro-4-nitrobenzene	2.87 ± 0.06
$C_6H_4F_2$	*o*-Difluorobenzene	2.46 ± 0.05
$C_6H_4F_2$	*m*-Difluorobenzene	1.51 ± 0.02
$C_6H_4N_2$	2-Pyridinecarbonitrile	5.78 ± 0.11
$C_6H_4N_2$	3-Pyridinecarbonitrile	3.66 ± 0.11
$C_6H_4N_2$	4-Pyridinecarbonitrile	1.96 ± 0.03
$C_6H_4O_2$	3,5-Cyclohexadiene-1,2-dione	4.23 ± 0.02
C_6H_5Br	Bromobenzene	1.70 ± 0.03
C_6H_5Cl	Chlorobenzene	1.69 ± 0.03
C_6H_5ClO	*p*-Chlorophenol	2.11 ± 0.11
C_6H_5F	Fluorobenzene	1.60 ± 0.08
C_6H_5I	Iodobenzene	1.70 ± 0.09
C_6H_5NO	2-Pyridinecarboxaldehyde	3.56 ± 0.07
C_6H_5NO	3-Pyridinecarboxaldehyde	1.44
C_6H_5NO	4-Pyridinecarboxaldehyde	1.66
$C_6H_5NO_2$	Nitrobenzene	4.22 ± 0.08
C_6H_6	Fulvene	0.4236 ± 0.013
C_6H_6ClN	*o*-Chloroaniline	[1.77]
C_6H_6O	Phenol	1.224 ± 0.008
C_6H_6O	2-Vinylfuran	0.69 ± 0.07
$C_6H_6O_2$	*p*-Hydroquinone	2.38 ± 0.05
C_6H_6S	Benzenethiol	[1.23]
C_6H_7N	Aniline	1.13 ± 0.02
C_6H_7N	2-Methylpyridine	1.85 ± 0.04
C_6H_7N	3-Methylpyridine	[2.40]
C_6H_7N	4-Methylpyridine	2.70 ± 0.02
C_6H_8O	3-Methyl-2-cyclopenten-1-one	4.33 ± 0.002
$C_6H_8O_4$	Dimethyl maleate	[2.48]
C_6H_8Si	Phenylsilane	0.845 ± 0.012
C_6H_9F	1-Fluorocyclohexene	1.942 ± 0.010
C_6H_{10}	1-Hexyne	0.83 ± 0.05
C_6H_{10}	3,3-Dimethyl-1-butyne	0.661 ± 0.004
C_6H_{10}	Cyclohexene (*half-chair*)	0.332 ± 0.012
$C_6H_{10}F_2$	1,1-Difluorocyclohexane	2.556 ± 0.010
$C_6H_{10}O$	3-Methylcyclopentanone	3.14 ± 0.03
$C_6H_{10}O$	Cyclohexanone	3.246 ± 0.006
$C_6H_{10}O$	Mesityl oxide	[2.79]
$C_6H_{10}O_4$	Diethyl oxalate	[2.49]
$C_6H_{10}O_4$	Ethylene glycol diacetate	[2.34]
$C_6H_{11}Cl$	Chlorocyclohexane (*equitorial*)	2.44 ± 0.07
$C_6H_{11}Cl$	Chlorocyclohexane (*axial*)	1.91 ± 0.02
$C_6H_{11}F$	Fluorocyclohexane (*equitorial*)	2.11 ± 0.04
$C_6H_{11}F$	Fluorocyclohexane (*axial*)	1.81 ± 0.04
$C_6H_{11}N$	4-Methylpentanenitrile	[3.5]
$C_6H_{11}NO$	Caprolactam	[3.9]
$C_6H_{12}O$	Butyl vinyl ether	[1.25]
$C_6H_{12}O$	2-Hexanone	[2.66]
$C_6H_{12}O_2$	Hexanoic acid	[1.13]
$C_6H_{12}O_2$	Pentyl formate	1.90 ± 0.10
$C_6H_{12}O_2$	Butyl acetate	[1.87]
$C_6H_{12}O_2$	*sec*-Butyl acetate	[1.87]
$C_6H_{12}O_2$	Isobutyl acetate	[1.86]
$C_6H_{12}O_2$	Ethyl butanoate	[1.74]
$C_6H_{12}O_2$	Diacetone alcohol	[3.24]
$C_6H_{12}O_3$	Ethylene glycol monoethyl ether acetate	[2.25]

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DIPOLE MOMENTS (continued)

Mol. Form.	Name	μ/D
$C_6H_{12}O_3$	Paraldehyde	1.43 ± 0.07
$C_6H_{13}N$	Cyclohexylamine	[1.26]
$C_6H_{14}O$	Dipropyl ether	1.21 ± 0.06
$C_6H_{14}O$	Diisopropyl ether	1.13 ± 0.10
$C_6H_{14}O$	Butyl ethyl ether	[1.24]
$C_6H_{14}O_2$	2-Methyl-2,4-pentanediol	[2.9]
$C_6H_{14}O_2$	Ethylene glycol monobutyl ether	[2.08]
$C_6H_{14}O_2$	1,1-Diethoxyethane	[1.38]
$C_6H_{14}O_3$	Diethylene glycol monoethyl ether	[1.6]
$C_6H_{14}O_3$	Diethylene glycol dimethyl ether	[1.97]
$C_6H_{15}N$	Dipropylamine	[1.03]
$C_6H_{15}N$	Diisopropylamine	[1.15]
$C_6H_{15}N$	Triethylamine	0.66 ± 0.05
$C_6H_{15}NO_3$	Triethanolamine	[3.57]
$C_6H_{15}O_4P$	Triethyl phosphate	[3.12]
$C_6H_{18}N_3OP$	Hexamethylphosphoric triamide	[5.5]
$C_7H_5Cl_3$	(Trichloromethyl)benzene	[2.03]
$C_7H_5F_3$	(Trifluoromethyl)benzene	2.86 ± 0.06
C_7H_5N	Benzonitrile	4.18 ± 0.08
C_7H_5N	Isocyanobenzene	4.018 ± 0.003
$C_7H_6Cl_2$	2,4-Dichlorotoluene	[1.70]
$C_7H_6Cl_2$	3,4-Dichlorotoluene	[2.95]
$C_7H_6Cl_2$	(Dichloromethyl)benzene	[2.07]
C_7H_6O	2,4,6-Cycloheptatrien-1-one	4.1 ± 0.3
C_7H_6O	Benzaldehyde	[3.0]
$C_7H_6O_2$	Salicylaldehyde	[2.86]
C_7H_7Cl	*o*-Chlorotoluene	1.56 ± 0.08
C_7H_7Cl	*m*-Chlorotoluene	[1.82]
C_7H_7Cl	*p*-Chlorotoluene	2.21 ± 0.04
C_7H_7Cl	(Chloromethyl)benzene	[1.82]
C_7H_7F	*o*-Fluorotoluene	1.37 ± 0.07
C_7H_7F	*m*-Fluorotoluene	1.82 ± 0.04
C_7H_7F	*p*-Fluorotoluene	2.00 ± 0.10
$C_7H_7NO_3$	2-Nitroanisole	[5.0]
C_7H_8	Toluene	0.375 ± 0.010
C_7H_8	2,5-Norbornadiene	0.0587 ± 0.0001
C_7H_8O	*o*-Cresol	[1.45]
C_7H_8O	*m*-Cresol	[1.48]
C_7H_8O	*p*-Cresol	[1.48]
C_7H_8O	Benzyl alcohol	1.71 ± 0.09
C_7H_8O	Anisole	1.38 ± 0.07
C_7H_9N	*o*-Methylaniline	[1.60]
C_7H_9N	*m*-Methylaniline	[1.45]
C_7H_9N	*p*-Methylaniline	[1.52]
C_7H_9N	2,4-Dimethylpyridine	[2.30]
C_7H_9N	2,6-Dimethylpyridine	[1.66]
C_7H_{10}	1,3-Cycloheptadiene	0.740
C_7H_{12}	Methylenecyclohexane	0.62 ± 0.01
$C_7H_{12}O_4$	Diethyl malonate	[2.54]
$C_7H_{14}O$	2-Heptanone	[2.59]
$C_7H_{14}O$	3-Heptanone	[2.78]
$C_7H_{14}O$	2,4-Dimethyl-3-pentanone	[2.74]
$C_7H_{14}O$	*cis*-3-Methylcyclohexanol	[1.91]
$C_7H_{14}O$	*trans*-3-Methylcyclohexanol	[1.75]
$C_7H_{14}O_2$	Pentyl acetate	1.75 ± 0.10
$C_7H_{14}O_2$	Isopentyl acetate	[1.86]
$C_7H_{15}Br$	1-Bromoheptane	2.16 ± 0.11
$C_7H_{16}O$	2-Heptanol	[1.71]
$C_7H_{16}O$	3-Heptanol	[1.71]
C_8H_6	Phenylacetylene	0.656 ± 0.005
C_8H_7N	Benzeneacetonitrile	[3.5]
C_8H_8	Styrene	0.123 ± 0.003
C_8H_8O	Acetophenone	3.02 ± 0.06
$C_8H_8O_2$	Methyl benzoate	[1.94]
$C_8H_8O_3$	Methyl salicylate	[2.47]
C_8H_{10}	Ethylbenzene	0.59 ± 0.05
C_8H_{10}	*o*-Xylene	0.640 ± 0.005
$C_8H_{10}O$	2,4-Xylenol	[1.4]
$C_8H_{10}O$	2,5-Xylenol	[1.45]
$C_8H_{10}O$	2,6-Xylenol	[1.40]
$C_8H_{10}O$	3,4-Xylenol	[1.56]
$C_8H_{10}O$	3,5-Xylenol	[1.55]
$C_8H_{10}O$	Phenetole	1.45 ± 0.15
$C_8H_{10}O_2$	1,2-Dimethoxybenzene	[1.29]
$C_8H_{11}N$	*N*,*N*-Dimethylaniline	1.68 ± 0.17
$C_8H_{11}N$	2,4-Dimethylaniline	[1.40]
$C_8H_{11}N$	2,6-Dimethylaniline	[1.63]
$C_8H_{11}N$	2,4,6-Trimethylpyridine	[2.05]
$C_8H_{16}O$	2-Octanone	[2.70]
$C_8H_{16}O_2$	Octanoic acid	[1.15]
$C_8H_{16}O_2$	*sec*-Hexyl acetate	[1.9]
$C_8H_{16}O_2$	Isobutyl isobutanoate	[1.9]
$C_8H_{16}O_4$	Diethylene glycol monoethyl ether acetate	[1.8]
$C_8H_{17}Cl$	1-Chlorooctane	[2.00]
$C_8H_{18}O$	1-Octanol	[1.76]
$C_8H_{18}O$	2-Octanol	[1.71]
$C_8H_{18}O$	2-Ethyl-1-hexanol	[1.74]
$C_8H_{18}O$	Dibutyl ether	1.17 ± 0.06
$C_8H_{18}S$	Dibutyl sulfide	[1.61]
$C_8H_{19}N$	Dibutylamine	[0.98]
C_9H_7N	Quinoline	2.29 ± 0.11
C_9H_7N	Isoquinoline	2.73 ± 0.14
$C_9H_{10}O_2$	Ethyl benzoate	2.00 ± 0.10
$C_9H_{10}O_2$	Benzyl acetate	[1.22]
C_9H_{12}	Isopropylbenzene	≈0.79
$C_9H_{18}O$	2,6-Dimethyl-4-heptanone	[2.66]
$C_9H_{18}O_2$	Nonanoic acid	[0.79]
$C_{10}H_7Br$	1-Bromonaphthalene	[1.55]
$C_{10}H_7Cl$	1-Chloronaphthalene	[1.57]
$C_{10}H_8$	Azulene	0.80 ± 0.02
$C_{10}H_{14}$	*tert*-Butylbenzene	≈0.83
$C_{10}H_{16}O$	Camphor, (+)	[3.1]
$C_{10}H_{20}O_2$	2-Ethylhexyl acetate	[1.8]
$C_{10}H_{21}Br$	1-Bromodecane	[1.93]
$C_{10}H_{22}O$	Dipentyl ether	[1.20]
$C_{10}H_{22}O$	Diisopentyl ether	[1.23]
$C_{11}H_{12}O_2$	Ethyl *trans*-cinnamate	[1.84]
$C_{12}H_{10}$	Acenaphthene	≈0.85
$C_{12}H_{10}O$	Diphenyl ether	≈1.3
$C_{12}H_{27}BO_3$	Tributyl borate	[0.77]
$C_{12}H_{27}N$	Tributylamine	[0.78]
$C_{12}H_{27}O_4P$	Tributyl phosphate	[3.07]
$C_{14}H_{12}O_2$	Benzyl benzoate	[2.06]
$C_{16}H_{22}O_4$	Dibutyl phthalate	[2.82]
$C_{18}H_{34}O_2$	Oleic acid	[1.18]
$C_{18}H_{34}O_4$	Dibutyl sebacate	[2.48]
$C_{21}H_{21}O_4P$	Tri-*o*-cresyl phosphate	[2.87]
$C_{21}H_{21}O_4P$	Tri-*m*-cresyl phosphate	[3.05]
$C_{21}H_{21}O_4P$	Tri-*p*-cresyl phosphate	[3.18]
$C_{22}H_{44}O_2$	Butyl stearate	[1.88]
$C_{24}H_{38}O_4$	Bis(2-ethylhexyl) phthalate	[2.84]

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