

At. No.	Name	Formula	Species Type	Central VE's before bonds	Total VE's after bonds	ED's	Type of Hybrid	σ bonds	π bonds	Central LP's	Outer Bonds & LP's	Model	Electron Geometry	Molecular Geometry	Polarity Debyes	Dielectric Constant	mp K	bp K	Molar Mass
1	Hydrogen molecule	H ₂	molecule	1	2	1	s	1	0	0	0	AX	linear	linear	-	-	13.99	20.271	2.016
4	Beryllium hydride	BeH ₂	molecule	2	4	2	sp	2	0	0	0	AX ₂	linear	linear	-	-	523 d	-	11.03
5	Boron trifluoride	BF ₃	molecule	3	24	3	sp ²	3	0	0	0	AX ₃	trigonal planar	trigonal planar	-	-	146.3	172.8	67.82
5	Borane	BH ₃	molecule	3	6	3	sp ²	3	0	0	0	AX ₃	trigonal planar	trigonal planar	-	-	dimers	-	13.83
5	Diborane	B ₂ H ₆	molecule	3	12	3	sp ²	6	0	0	0	AX ₆	trigonal planar (2 centers)	tetrahedral (2 centers)	0	-	108.3	180.66	27.67
5	Ammonia borane	BH ₃ NH ₃	molecule	3	14	1	sp ²	7	0	0	0	AX ₆	trigonal planar (stacked)	trigonal planar	5.2	-	377	polymerizes	30.87
6	Carbon monoxide	CO	molecule	4	10	2	sp	1	2	1	1	AXE	linear	linear	0.122	-	68.13	81.6	28.01
6	Hydrogen cyanide	HCN	molecule	4	10	2	sp	2	2	0	1	AX ₂	linear	linear	2.98	-	258.86	299	27.0253
6	Cyanamide	NCNH ₂	molecule	4	16	2	sp	2	2	0	8	AX ₂	linear	linear	4.27	-	317	533 d	42.04
6	Carbon dioxide	CO ₂	molecule	4	16	2	sp	2	2	0	4	AX ₂	linear	linear	-	-	194.6855 s	-	44.009
6	Isoyanic acid	HNCO	molecule	4	16	2	sp	2	2	0	3	AX ₂	linear	linear	-	-	187	253 pol.	43.025
6	Cyanoic acid (taut. Isoyanic acid)	HOCN	molecule	4	16	2	sp	2	2	0	8	AX ₂	linear	linear	-	-	187	253 pol.	43.025
6	Carbonyl dichloride (Phosgene)	COCl ₂	molecule	4	24	3	sp ²	3	1	0	8	AX ₂	trigonal planar	trigonal planar	1.17	-	155	281.4	98.91
6	Methanoic acid, formic acid	HCOOH	molecule	4	18	3	sp ²	3	1	0	10	AX ₂	trigonal planar	trigonal planar	1.41	-	281.5	373.9	46.025
6	Ethanoic acid, acetic acid	CH ₃ COOH	molecule	4	24	3	sp ²	3	1	0	16	AX ₂	trigonal planar	trigonal planar	1.74	-	289-290	391-392	60.052
6	Methanal, formaldehyde	CH ₂ O	molecule	4	12	3	sp ²	3	1	0	2	AX ₂	trigonal planar	trigonal planar	2.33	-	181	254	32.026
6	Acetone, propanone	(CH ₃) ₂ CO	molecule	4	24	4	sp ²	3	1	0	8	AX ₂	trigonal planar	trigonal planar	2.88	21	178.2	329.23	58.08
6	Dichloromethane	CH ₂ Cl ₂	molecule	4	20	4	sp ³	4	0	0	6	AX ₄	tetrahedral	tetrahedral	1.6	9.1	176.5	312.8	84.93
6	Ethanol	CH ₃ COOH	molecule	4	20	4	sp ³	4	0	0	6	AX ₄	trigonal planar	trigonal planar	1.69	25	159.01	351.38	46.069
6	Methanol	HCOOH	molecule	4	14	4	sp ³	4	0	0	5	AX ₄	trigonal planar	trigonal planar	1.69	33	175.6	337.8	32.042
6	Carbon tetrafluoride	CF ₄	molecule	4	32	4	sp ³	4	0	0	12	AX ₄	tetrahedral	tetrahedral	-	-	89.5	145.3	88.0043
6	Methane	CH ₄	molecule	4	8	4	sp ³	4	0	0	0	AX ₄	tetrahedral	tetrahedral	-	-	90.694	111.66	16.043
6	Oxalic acid	C ₂ H ₂ O ₄	molecule	4	34	3	sp ²	5	2	0	10	AX ₂	trigonal planar (2 centers)	trigonal planar (2 centers)	4.62-4.64	-	d	90.034	-
6	Cyanuric acid	C ₃ H ₃ N ₃ O ₃	molecule	4	48	3	sp ²	9	3	0	12	AX ₂	trigonal planar (3 centers, ring)	trigonal planar (3 centers, ring)	593-633 d	-	-	129.07	-
7	Nitrogen molecule	N ₂	molecule	5	10	2	sp	1	2	1	1	AXE	linear	linear	-	-	63.23	77.355	28.014
7	Nitrogen dioxide	NO ₂	molecule	5	17	3	sp ²	2	1	0.5	5	AX ₂ E ₂	trigonal planar	bent	-	-	263.6	294.3	46.005
7	Nitrous acid	HNO ₂	molecule	5	18	3	sp ²	2	1	1	5	AX ₂ E	trigonal planar	bent	-	-	-	-	47.013
7	Nitrous oxide (dinitrogen monoxide)	N ₂ O	molecule	5	16	2	sp	2	2	0	4	AX ₂	linear	linear	0.166	-	182.29	184.67	44.013
7	Nitrogen trifluoride	NF ₃	molecule	5	26	4	sp ³	3	0	1	9	AX ₃ E	tetrahedral	trigonal pyramidal	0.234	-	66	144.09	71
7	Nitrogen trichloride	NCl ₃	molecule	5	26	4	sp ³	3	0	1	9	AX ₃ E	tetrahedral	trigonal pyramidal	0.6	-	233	344	120.36
7	Ammonia	NH ₃	molecule	5	8	3	sp ³	3	0	1	0	AX ₃ E	tetrahedral	trigonal pyramidal	1.42	-	195.42	239.81	17.031
7	Nitric acid	HNO ₃	molecule	5	24	3	sp ²	3	1	0	8	AX ₃	trigonal planar	trigonal planar	2.17	-	231 (pure)	356 (pure)	63.012
7	Dinitrogen tetroxide	N ₂ O ₄	molecule	5	34	4	sp ²	6	2	0	9	AX ₂	trigonal planar (2 centers)	trigonal pyramidal (2 centers)	-0	-	261.9 d	294.84	92.01
8	Oxygen molecule	O ₂	molecule	6	12	2	sp	1	1	2	2	AX	trigonal planar	linear	-	-	51.9	90.188	31.998
8	Diethyl ether	C ₄ H ₁₀ O	molecule	6	32	4	sp ³	2	0	2	12	AX ₄	tetrahedral	bent	1.15	4.3	156.8	307.8	74.123
8	Water	H ₂ O	molecule	6	8	4	sp ³	2	0	2	0	AX ₂ E ₂	tetrahedral	bent	1.8546	80	273.15	373.13	18.015
8	Ozone	O ₃	molecule	6	18	3	sp ²	2	1	1	5	AX ₂ E	trigonal planar	bent	0.53	-	81	161	47.997
8	Hydrogen peroxide	H ₂ O ₂	molecule	6	14	1	sp ³	3	0	2	2	AX ₂ E ₂	tetrahedral	bent	2.26	-	272.2	423.3 (liq)	34.014
9	Hydrogen fluoride	HF	molecule	7	8	4	sp ³	1	0	3	0	AXE ₃	tetrahedral	linear	1.86	-	189.6	292.6	20.006
9	Fluorine molecule	F ₂	molecule	7	14	4	sp ³	1	0	3	3	AXE ₂	tetrahedral	linear	-	-	53.48	85.03	37.996
13	Aluminum bromide	AlBr ₃	molecule	3	24	3	sp ²	3	0	0	0	AX ₃	trigonal planar	trigonal planar	-	-	370.5	528	266.694
13	Aluminum hydride	AlH ₃	molecule	3	6	3	sp ²	3	0	0	0	AX ₃	trigonal planar	trigonal planar	-	-	423 d (378)	-	30.006
14	Silane	SiH ₄	molecule	4	8	4	sp ³	4	0	0	0	AX ₄	tetrahedral	tetrahedral	0	-	88.1	161.2	32.117
14	Silicon tetrachloride	SiCl ₄	molecule	4	32	4	sp ³	4	0	0	12	AX ₄	tetrahedral	tetrahedral	-	-	204.41	330.6	169.9
15	Phosphine	PH ₃	molecule	5	8	3	sp ³	3	0	1	0	AX ₃ E	tetrahedral	trigonal pyramidal	0.58	-	140.3	185.5	33.99758
15	Phosphorous oxychloride	POCl ₃	molecule	5	32	4	sp ³	4	1	0	11	AX ₃	tetrahedral	tetrahedral	2.54	-	274.4	378.9	153.32
15	Phosphorous pentachloride	PCl ₅	molecule	5	40	5	sp ³ d	5	0	0	15	AX ₅	trigonal bipyramidal	trigonal bipyramidal	0	-	179.37	188.6	125.967778
16	Hydrogen sulfide	H ₂ S	molecule	6	8	4	sp ³	2	0	2	0	AX ₂ E ₂	tetrahedral	bent	0.97	-	187.7	213.6	34.08
16	Sulfur dichloride	SCl ₂	molecule	6	20	4	sp ³	2	0	2	8	AX ₂ E ₂	tetrahedral	bent	-	-	152.2	332 d	102.96
16	Sulfur dioxide	SO ₂	molecule	6	18	3	sp ²	2	2	1	4	AX ₂ E	trigonal planar	bent	1.62	-	201	263	64.066
16	Sulfur trioxide	SO ₃	molecule	6	24	3	sp ²	3	1	0	8	AX ₃	trigonal planar	trigonal planar	-	-	290	318	80.066
16	Dimethyl sulfoxide, DMSO	(CH ₃) ₂ SO	molecule	6	26	4	sp ³	3	1	1	8	AX ₃ E	tetrahedral	trigonal pyramidal	3.96	49	292	462	78.13
16	Sulfur tetrafluoride	SF ₄	molecule	6	34	5	sp ³ d	4	0	2	12	AX ₄ E	trigonal bipyramidal	see-saw	0.632	-	152.15	235.15	108.07
16	Sulfuryl chloride	SO ₂ Cl ₂	molecule	6	32	4	sp ³	4	2	0	10	AX ₄	tetrahedral	tetrahedral	-	-	219.1	342.5	134.9688
16	Sulfur hexafluoride	SF ₆	molecule	6	48	6	sp ³ d ²	6	0	0	18	AX ₆	octahedral	octahedral	0	-	209	222.3	146.06
17	Chlorine monofluoride	ClF	molecule	7	14	4	sp ³	1	0	3	3	AXE ₃	tetrahedral	linear	0.881	-	117.5	173.1	54.45
17	Hydrogen chloride	HCl	molecule	7	8	4	sp ³	1	0	3	0	AXE ₃	tetrahedral	linear	1.05	-	158.83	188.1	36.46
17	Chlorine molecule	Cl ₂	molecule	7	14	4	sp ³	1	0	3	3	AXE ₃	tetrahedral	linear	-	-	171.6	239.11	70.9
24	Chromium trioxide	CrO ₃	molecule	6	24	4	sp ²	3	3	0	6	AX ₃	tetrahedral	trigonal planar	-	-	470	523 d	99.993
33	Arsine	AsH ₃	molecule	5	8	3	sp ³	3	0	1	0	AX ₃ E	tetrahedral	trigonal pyramidal	0.2	-	162	210.7	77.9454
33	Arsenic pentafluoride	AsF ₅	molecule	5	38	5	sp ³ d	5	0	0	15	AX ₅	trigonal bipyramidal	trigonal bipyramidal	-	-	193.2	220.2	169.9136
34	Hydrogen selenide	H ₂ Se	molecule	6	8	4	sp ³	2	0	2	0	AX ₂ E ₂	tetrahedral	bent	-	-	207.42	231.9	80.98
34	Selenium dichloride	SeCl ₂	molecule	6	20	4	sp ³	2	0	2	8	AX ₂ E ₂	tetrahedral	bent	-	-	319-320	-	148.87
34	Selenium dibromide	SeBr ₂	molecule	6	20	4	sp ³	2	0	2	8	AX ₂ E ₂	tetrahedral	bent	-	-	238.999	-	-
34	Selenium hexafluoride	SeF ₆	molecule	6	48	6	sp ³ d ²	6	0	0	18	AX ₆	octahedral	octahedral	0	-	234	238.7 s	192.9534
35	Hydrogen bromide	HBr	molecule	7	8	4	sp ³	1	0	3	0	AXE ₃	tetrahedral	linear	0.82	-	186.2	206.3	80.91
35	Bromine molecule	Br ₂	molecule	7	14	4	sp ³	1	0	3	3	AXE ₃	tetrahedral	linear	-	-	265.8	332	159.808
52	Hydrogen telluride	H ₂ Te	molecule	6	8	4	sp ³	2	0	2	0	AX ₂ E ₂	tetrahedral	bent	-	-	224	270.9	129.6158
53	Hydrogen iodide	HI	molecule	7	8	4	sp ³	1	0	3	0	AXE ₃	tetrahedral	linear	0.38	-	222.35	237.79	127.912
53	Iodine molecule	I ₂	molecule	7	14	4	sp ³	1	0	3	3	AXE ₃	tetrahedral	linear	-	-	386.85	457.4	253.8
53	Iodine monochloride	ICI	molecule	7	14	4	sp ³	1	0	3	3	AXE ₃	tetrahedral	linear	-	-	300.3	370.5	162.36
53	Iodine pentafluoride	IF ₅	molecule	7	42	6	sp ³ d ²	5	0	1	15	AX ₅ E	octahedral	square pyramidal	282.58	-	371	221.89	-
53	Iodine trichloride	ICl ₃	molecule	7	56	5	sp ³ d	6	0	4	16	AX ₅ E ₂	square planar (2 centers)	square planar (2 centers)	336	-	466.5281	-	-
54																			