

Table I. Energies (hartrees) calculated by different methods

Molecule	RHF/6d ^a	MP2/6d ^b	RHF/5d ^c	MP2/5d ^d	DMol ^e	DG/L ^f	DG/N ^g	DN/L ^h	DN/N ⁱ
CH ₃ CH ₂ OH	-154.1230350	-154.6397426	-154.1224796	-154.6344594	-153.837216	-153.777156	-155.078652	-153.7770954	-155.0834611
CH ₃ CH ₂ OH ₂ ⁺	-154.4392299	-154.9508198	-154.4386628	-154.9455746	-154.130723	-154.076033	-155.385157	-154.0754390	-155.3904492
HCOO ⁻	-188.2371228 ^j	-188.7719162 ^k	-188.2361850	-188.7649065	-187.903715	-187.838977	-189.256199	-187.8352964	-189.2577825
HCOOH	-188.8150210 ^l	-189.3453762 ^m	-188.8143368	-189.3385059	-188.449596	-188.393595	-189.819241	-188.3897471	-189.8212464
HCOOH ₂ ⁺	-189.1195374	-189.6398706	-189.1189471	-189.6330064	-188.727812	-188.679666	-190.112747	-188.6764299	-190.1147460
CH ₃ OH	-115.0744354	-115.4357648	-115.0740581	-115.4318878	-114.862138	-114.820143	-115.753584	-114.8193904	-115.7563149
CH ₃ OH ₂ ⁺	-115.3826246	-115.7396017	-115.3822221	-115.7357520	-115.145634	-115.110564	-116.050971	-115.1093237	-116.0542486
CH ₃ NH ₂	-95.2405075	-95.5936421	-95.2402897	-95.5902318	-95.068884	-95.029013	-95.881481	-95.0283120	-95.8846917
CH ₃ NH ₃ ⁺	-95.6053542	-95.9564758	-95.6050615	-95.9531765	-95.410276	-95.377146	-96.237388	-95.3760231	-96.2405465

^aFull geometry optimization at RHF level with Gaussian 90 (ref [GAUSSIAN]) using DH6D basis set.

^bFull geometry optimization at the 2nd order Møller-Plesset level with Gaussian 90 (ref [GAUSSIAN]) using DH6D basis set.

^cAs footnote a but with DH5D basis set.

^dAs footnote b but with DH5D basis set.

^eFull geometry optimization with DMol (ref. [DMOL]) using DNP basis set at LSD level.

^fFull geometry optimization with DGauss (ref [DGAUSS]) using DZVPP basis set at LSD level.

^gGradient correction added to energy calculated at LSD optimized geometry.

^hFull geometry optimization at the local spin density level with deMon (ref [deMon]).

ⁱFull geometry optimization with nonlocal Becke-Perdew gradient corrections with deMon (ref [deMon]).

^j-188.2481335 with DH6D(+).

^k-188.7940720 with DH6D(+).

^l-188.8182181 with DH6D(+).

^m-189.3543538 with DH6D(+).