

Table 3.7: (ClH)(NH₃)

| method | D _e ^{cpc} | BSSE | D ₀ ^h | r _{Cl...N} | Δr _{H-Cl} (d) | Δω(d) |
|------------------------------------|-------------------------------|------|-----------------------------|---------------------|------------------------|-------|
| HF | 23.05 | 1.13 | 14.06 | 3.3352 | 0.0207 | -305 |
| MP2 | 33.19 | 5.32 | 23.61 | 3.0771 | 0.0519 | -727 |
| B3LYP | 35.88 | 2.53 | 26.20 | 3.0812 | 0.0625 | -801 |
| B97-1 | 40.35 | 2.43 | 30.73 | 3.0389 | 0.0731 | -911 |
| PBE0 | 42.27 | 2.47 | 32.49 | 3.0009 | 0.0801 | -1010 |
| HCTH | 28.49 | 2.70 | 18.86 | 3.0700 | 0.0684 | -861 |
| HCTH38 | 37.82 | 2.98 | 28.14 | 3.0450 | 0.0728 | -900 |
| BLYP | 36.05 | 3.10 | 26.47 | 3.0824 | 0.0717 | -849 |
| PBE | 46.00 | 3.21 | 36.22 | 2.9922 | 0.0954 | -1074 |
| LDA | 71.65 | 3.60 | 61.33 | 2.8958 | 0.1363 | -1321 |
| Best <i>ab initio</i> ^a | 35.08 | | | | | |

^aQCISD(T)/6-311+G** (frozen core, fixed geometry, corrected by the difference of MP2/6-311+G** and MP2/6-311+G(3df,2p), not cp-corrected), [58].