

Benson group additivity values (GAVs) for common fragments found in organic molecules

group	GAV (kJ mol ⁻¹)	group	GAV (kJ mol ⁻¹)
C-(C)(H) ₃	-41.8	C-(C _d)(C)(H) ₂	-20.1
C-(C) ₂ (H) ₂	-20.9	C _B -(H)	+13.8
C-(C) ₃ (H)	-10.0	C _B -(C)	+23.0
C-(C) ₄	-0.4	C _d -(H) ₂	+26.4
C-(C _B)(H) ₃	-41.8	C _d -(C)(H)	+36.0
C-(C _B)(C)(H) ₂	-19.2	C _d -(C) ₂	+42.7
C-(C _d)(H) ₃	-41.8		

(data from: N. Cohen, *J. Phys. Chem. Ref. Data* **1996**, 25, 1411).

corrections

<i>gauche</i> correction	+3.3 kJ mol ⁻¹
<i>cis</i> correction	+4.6 kJ mol ⁻¹
<i>ortho</i> correction	+2.5 kJ mol ⁻¹

Atom types

- "C" sp³-hybridized carbon as in common aliphatic hydrocarbons
- "C_B" sp²-hybridized carbon as in benzenoid hydrocarbons
- "C_d" sp²-hybridized carbon as in alkenes