Calculated Adiabatic Flame Temperatures

Various Gas Flame Temperatures

- Methane
- Hydrogen
- Acetylene
- Benzene
- Ammonia
- Carbon Monoxide
- Methane

1 atm

Alkanes have very similar heats of formation, therefore their flame temperatures are ~constant.

In terms of equivalence ratio, the combustion characteristics of alkanes are identical.

JANAF Thermochemical Tables
(Great Data Source!)

Heat Capacities

- CH4
- H2O
- H2
- N2
- CO2
- CO
- H2O-Janaf
- H2-Janaf
- CH4-Janaf
- O2-Janaf
- N2-Janaf

Curve-Fits to JANAF $C_p$ Data

Heat Capacity (cal/gmol-K)

- CH4
- O2
- CO2
- H2O
- H2
- N2
- CH4-Janaf
- O2-Janaf
- N2-Janaf