Data for Graphing Assignment

- Graph 1:

TABLE 11.5 Viscosity of Several Hydrocarbons at 20 °C

Hydrocarbon	Molar Mass (g/mol)	Formula	Viscosity (cP)
n-Pentane	72.15	$CH_3CH_2CH_2CH_2CH_3$	0.240
n-Hexane	86.17	$CH_3CH_2CH_2CH_2CH_2CH_3$	0.326
n-Heptane	100.2	$CH_3CH_2CH_2CH_2CH_2CH_2CH_3$	0.409
n-Octane	114.2	$CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_3$	0.542
n-Nonane	128.3	$CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_3$	0.711

- Graph 2:

TABLE 11.6 Viscosity of Liquid Water at Several Temperatures

Temperature (°C)	Viscosity (cP)
20	1.002
40	0.653
60	0.467
80	0.355
100	0.282

- Graph 3:

TABLE 11.8 Boiling Points of Water at Several Locations of Varied Altitudes

Location	Elevation (ft)	Approximate Pressure (atm)*	Approximate Boiling Point of Water (°C)
Mt. Everest, Tibet (highest mountain peak on Earth)	29,035	0.32	78
Mt. McKinley (Denali), Alaska (highest mountain peak in North America)	20,320	0.46	83
Mt. Whitney, California (highest mountain peak in 48 contiguous U.S. states)	14,495	0.60	87
Denver, Colorado (mile high city)	5,280	0.83	94
Boston, Massachusetts (sea level)	20	1.0	100

*The atmospheric pressure in each of these locations is subject to weather conditions and can vary significantly from the values stated here.

• Graph 4:

The vapor pressure of dichloromethane was measured as a function of temperature, and the following results were obtained:

Temperature (K)	Vapor Pressure (torr)
200	0.8
220	4.5
240	21
260	71
280	197
300	391

• Graph 5:

The concentration of SO_2Cl_2 was monitored at a fixed temperature as a function of time during the decomposition reaction and the following data were tabulated:

Time (s)	$[SO_2Cl_2]$ (M)	Time (s)	$[SO_2Cl_2]$ (M)
0	0.100	800	0.0793
100	0.0971	900	0.0770
200	0.0944	1000	0.0748
300	0.0917	1100	0.0727
400	0.0890	1200	0.0706
500	0.0865	1300	0.0686
600	0.0840	1400	0.0666
700	0.0816	1500	0.0647

• Graph 6:

Relative Standard Entropies: Molar Mass Consider the standard entropies of the noble gases at 25 °C:

	$S°$ (J/mol·K)	
He(*g*)	126.2	
Ne(*g*)	146.1	
Ar(*g*)	154.8	
Kr(*g*)	163.8	
Xe(*g*)	169.4