Lecture 3 – Selected answers to homework 13.60, .61, .62, .76, .81 and 14.22, .26, .30, .32

13.60 – Answer in the book 13.61 –

(a) 
$$\frac{Br_2}{Fe}$$
 CI—CI

NO<sub>2</sub>

CI—CI

(b)  $\frac{HNO_3}{H_2SO_4}$  CI—CI

(c)  $\frac{SO_3}{H_2SO_4}$  CI—CI

(d)  $\frac{Cl_2}{Fe}$  CI—CI

13.62 – Answer in book

13.76 – Answer in book

13.81 – In ocntrast to benzene, naphthalene is a solid at room temperature because it has a greater molecular weight and its London forces are greater.

14.22 - Alcohols contain –OH groups, which can form hydrogen bonds to each other. Since extra energy (heat) must be supplied to break these hydrogen bonds, alcohols are higher boiling than ethers, which can't hydrogen bond.

14.26 – Answer in book

14.30 – Answer in book

14.32 -

Compound	Boiling Point	Reason
Hexanol	Highest	Formes hydrogen bonds
Dipropyl ether	Middle	Polar, but doesn't form hydrobonds
Hexane	Lowest	Nonpolar