

Metals in the environment

Includes metalloids - metal-like compounds

A) Toxicity

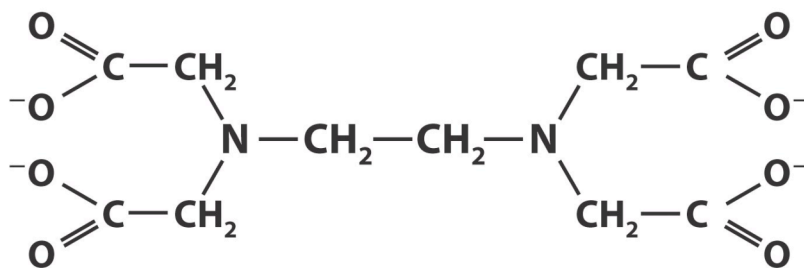
Dependent on the oxidation state, volatility, solubility

Interactions with sulfhydryl groups

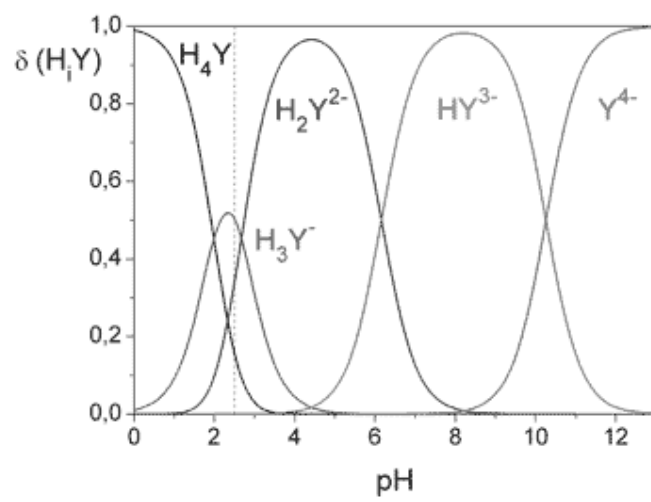
B) Removal

Chelators

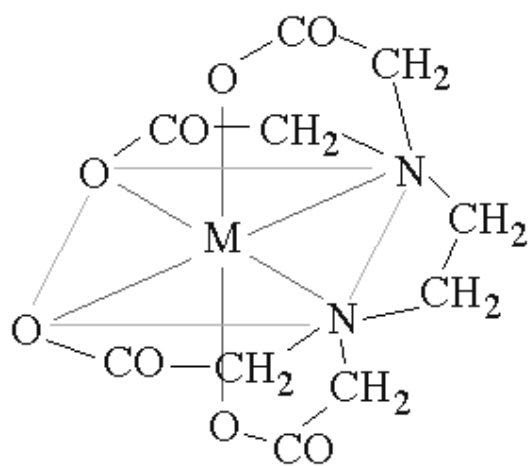
example: EDTA (p. 518)



pH dependence



complexation mechanism



C) Bioaccumulation

$$R =$$

$$kC =$$

$$\text{If } R = kC$$

Not always the case due to enzyme systems,...

so we use the expression:

$$C_{ss} = R/k$$

For a 1st order rxn, $k =$

Problem 11-3 (due 2 weeks from today)