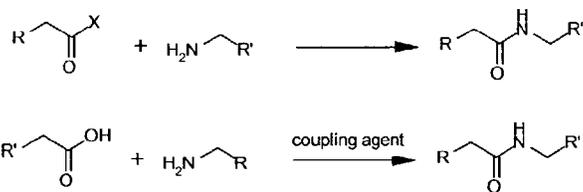


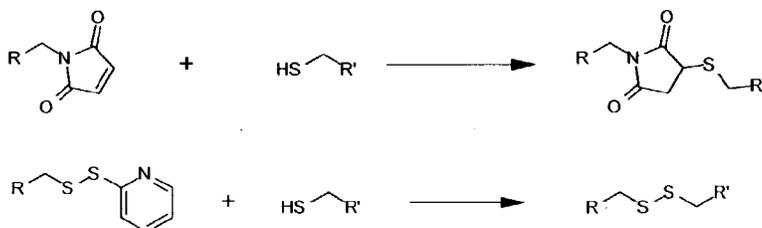
Figure 1. Examples of Conjugation Methods for Attachment of Antigen(s) or Ligands to Lipids.

Amide bond formation



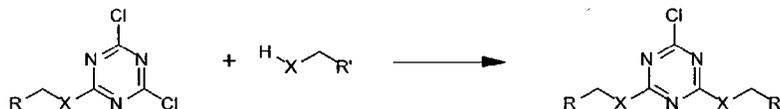
R = lipid X = N-hydroxysuccinimide, pentafluorophenol, etc. R' = protein, peptide, small molecule

Thioether or disulfide bond formation

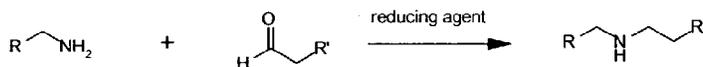


R = lipid R' = protein, peptide, small molecule

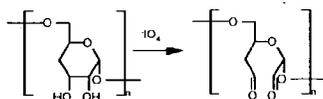
Alkylation



R = lipid X = O, N, S R' = protein, peptide, small molecule



R = lipid R' = glycoprotein, carbohydrate or polysaccharide, small molecule in the glycoprotein or polysaccharide the aldehyde functionality is generated as shown below



Chelation

