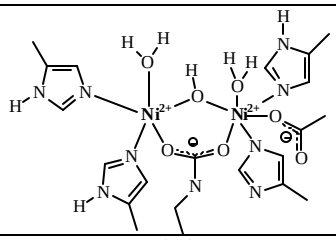
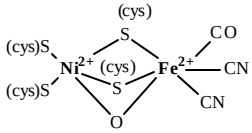
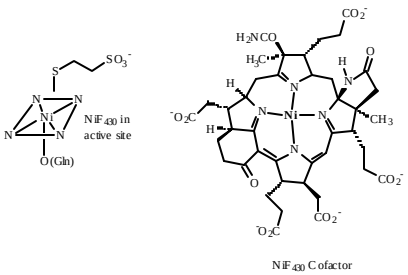
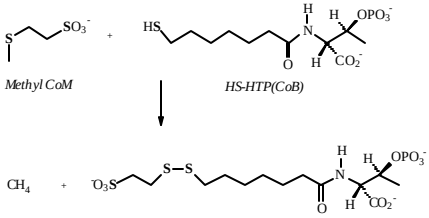
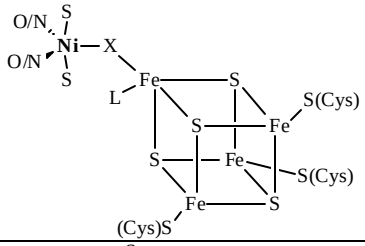
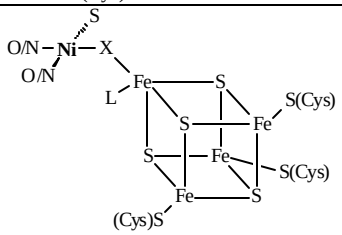
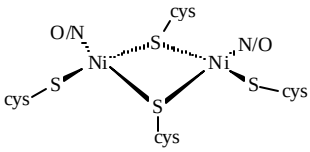
Nickel Enzymes (active sites, reactions and biological distribution)

Enzyme	Ni-center	Reaction and Distribution
Urease		$CO(NH_2)_2 \rightarrow NH_3 + CO_2 + HNCO$ *Bacteria and Plants*
NiFe Hydrogenase*		$2H^+(aq) + 2e^-$ ¾ H_2 *Bacteria*
Methyl-CoM reductase*		 *Methanogenic Bacteria*
CO dehydrogenase		$CO + H_2O \rightarrow CO_2 + 2H^+ + 2e^-$ *Photosynthetic Bacteria*
Acetyl CoA synthase		CO_2 + [CH_3]-Co(III)balamin +SCoA +$2e^-$ → $CH_3C(O)ScoA$+ Co(I)balamin *Methanogenic and Acetogenic Bacteria*
Nickel Superoxide Dimutase*		$2\ O_2^{\cdot\ -} + 2H^+ \rightarrow O_2 + H_2O_2$ *Streptomyces*