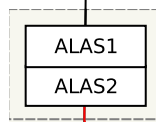
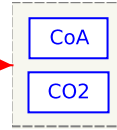


Title: Heme Biosynthesis
Organism: Canis familiaris

succinyl-CoA + glycine



rate limiting step

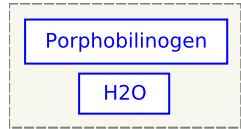


Black - reactants

Red - side products

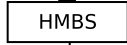
delta-aminolevulinate

delta-aminolevulinate



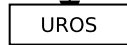
porphobilinogen

H2O



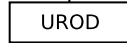
hydroxymethylbilane

NH3



uroporphyrinogen III

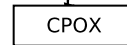
H2O



coproporphyrinogen III

CO2

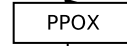
O2



protoporphyrinogen IX

CO2

O2



H2O2

protoporphyrin IX

Fe2+



H+

protoheme

