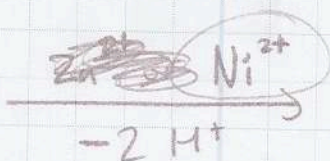


mesotetraphenylporphyrin



incorporation of a metal ion into tetraphenylporphyrin

Objectives

- Synthesize a metalloporphyrin containing Zn^{2+} or Ni^{2+}
- Examine the differences in physical data collected for metalloporphyrins that contain the same chelating ligand but different bound metal ions

Reagents

meso-tetraphenylporphyrin

mass
614.74 g/mol

safety
—

DMF

solvent
73.09 g/mol

irritant + causes severe organ disorders

Ni(II) acetate tetrahydrate
metal complex

248.84 g/mol

carcinogen

~~Zn acetate dihydrate~~

1:1 ratio

$$.813 \text{ mmol} = .000813 \text{ mol} \left| \frac{614.74 \text{ g}}{\text{mol}} \right. = .49978 \text{ g m-tetraporphyrin}$$

.500g (used .501g)

$$.000813 (1.3) = .0010569 \text{ mol} \left| \frac{248.84 \text{ g}}{\text{mol}} \right. = .2629 \text{ g} = .263 \text{ g Ni salt}$$

(used .264g)

$$.813 \text{ mmol product} \left| \frac{671.43 \text{ g}}{\text{mol}} \right. = .5458 \text{ g product} = \text{theoretical yield}$$