

## Syntheses and Properties of Crosslinked Ferrocene Polymers(Chemistry)

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quenching of the triplet dye by ferrocene seems to occur through the charge (electron) transfer interaction.

### **Syntheses and Properties of Crosslinked Ferrocene Polymers**

Mamoru OMORI, Masayasu KURONO and Seishi YAJIMA

Bull. Chem. Soc. Japan, **48** (1975), 1291.

The polycondensation reaction of acetylferrocene and furfural was investigated in the presence of concentrated  $\text{H}_2\text{SO}_4$  as a catalyst without solvent. Stoichiometric reaction took place with 2 mol of acetylferrocene and 5 mol of furfural. Polycondensation afforded satisfactory results when 1 mol of acetylferrocene was treated with 2–7 mol of furfural. The structural evidence for these products was derived from chemical and infrared analyses. Density, micro Vickers hardness, magnetic susceptibility, and thermal behavior of these products were measured in comparison with those of other resins.

### **Synergistic Extraction of Uranyl Thenoyltrifluoroacetate with Trioctyl Phosphine Oxide**

Kenichi AKIBA

J. Radioanal. Chem., **36** (1977), 153.

Synergistic effect with a strong donor, trioctyl phosphine oxide (TOPO), has been studied in the extraction of thenoyltrifluoroacetone (TTA) complexes of uranyl ion. The chemical form of the species extracted was found to be the 1:1 adduct,  $\text{UO}_2\text{A}_2\cdot\text{S}$  (S:TOPO), and no evidence was found concerning other mixed complexes. Adduct formation constants determined in twelve inert solvents vary from  $\log K_S=6.79$  in chloroform to 9.58 in n-hexane, while their increasing order is almost the same as that for the adducts with other phosphine oxides and TBP.

## **Metallurgy**

### **Double HCP Phase in Cobalt Alloys with Dilute Contents of Iron**

Takashi ONOZUKA, Sadae YAMAGUCHI, Makoto HIRABAYASHI and Tokuo WAKIYAMA

J. Phys. Soc. Japan, **37** (1974), 687.

The crystal structure and the phase transformation of cobalt alloys containing less than 8 at%Fe have been investigated by means of X-ray diffraction, electron microscopy and heat capacity measurements. A double hcp structure of the  $\alpha$ -La type is found in the range 1.5 to 4.8 at%Fe at room temperature and the alloys of 0.7 to 0.9 at%Fe transform from hcp through dhcp to fcc with increasing temperature. The stacking fault energy in the dhcp phase at 2 at%Fe is estimated