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X-ray diffraction analyses were made for acids and esters as powder or melted layer.

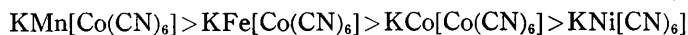
The long spacings of acids and 1-monoglycerides were coincide with those of corresponding normal saturated fatty acids (C-form) and their 1-esters (β' -form), but their short spacings showed the shrinking effect of unit cell of them.

Physico-chemical Study of Coordination Compounds

Hidenari INOUE (井上秀成)

Physico-chemical properties of coordination polymers such as $\text{KM}[\text{Fe}(\text{CN})_6]$ ($\text{M}=\text{Mn, Fe, Co, Ni, etc.}$), $\text{KM}[\text{Co}(\text{CN})_6]$, AgCN and AgSCN were studied by the observation of X-ray diffraction pattern, IR and electronic spectrum and conductivity measurement.

It was found that both $\text{KM}[\text{Fe}(\text{CN})_6]$ and $\text{KM}[\text{Co}(\text{CN})_6]$ were face-centered cubic and isomorphous each other, by X-ray diffraction analysis using powder method. The lattice constants of $\text{KM}[\text{Co}(\text{CN})_6]$ type compounds decreased in the order of



and this was inverse order of crystal field stabilization energy of M^{2+} . Similar relationship was also observed in $\text{KM}[\text{Fe}(\text{CN})_6]$ type compounds.

All the IR spectra of C-N and M-C stretching vibration shifted to higher frequency side from those of $\text{K}_3[\text{Fe}(\text{CN})_6]$, $\text{K}_3[\text{Co}(\text{CN})_6]$, KCN and KSCN . This cause could be explained by the effect of outer-sphere ion, M^{2+} which seemed to interact with nitrogen atom of CN^- .

As d-d transition and charge-transfer bands of both $\text{KM}[\text{Fe}(\text{CN})_6]$ and $\text{KM}[\text{Co}(\text{CN})_6]$ were observed in electronic spectra by KBr disk method, assignment of each band based on ligand field theory was given.

According to the measurements of conductivity-temperature dependence, all of $\text{KM}[\text{Fe}(\text{CN})_6]$ type compds., a part of $\text{KM}[\text{Co}(\text{CN})_6]$ type compds., AgCN and AgSCN were found to have a semiconductor property.

The Synthesis of Homogeneous Monoalkoxy-(polyoxy)ethanols

Takamitsu ITOH (伊藤隆允)

Although a number of investigations have been reported concerning the synthesis of homogeneous polyoxyethyleneglycolmonoalkylethers, very few have dealt with