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## Extraction of Iron (III) and Gold (III) with Isopropyl Ether

*Da. Maljković*

*Faculty of Technology, University of Zagreb, Sisak, Croatia, Yugoslavia*

The extn. of iron (III) and gold (III) with isopropyl ether (IPE) from the aq. solns. of hydrochloric acid at const. temp. (20 °C) was investigated. On the basis of vols. and compns. of equil. phases (at various initial cocn. of metal, hydrochloric acid and IPE) the distribution ratio, extn. and recovery factors were calcd. Benzene as dilg. agent was used in all expts. with dild. IPE. The range of concn. of components at which the third phase (heavy org. phase) appears was carefully examined.

When dild. IPE was applied intensified extn. of gold (III) was observed having maximum value at initial concn. of IPE about 3 M.

Extn. of mixt. of iron (III) and gold (III), with either pure or dild. IPE, showed that under certain conditions gold coextracted with iron (III) in heavy org. phase. The coextraction is probably caused by formation of mixed associates of $H^+AuCl_4^-H^+FeCl_4^-$ type, what is indicated by metal concn. ratio in heavy org. phase.

The results on the investigation of iron (III) and gold (III) with the partition paper chromatog., in the system HCl—$H_2O$—$(i\text{-Pr})_2O$—$C_6H_6$, was compared with the results of extn. and discussed.

*Examiners:* Dr M. Branica, Prof. M. Herak, and Prof. B. Težak.
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DA. MALJKOVIĆ

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1. Extraction of Iron (III) and Gold (III) with Isopropyl Ether

I. Maljković, Da.

II. Faculty of Technology, University of Zagreb, Sisak, Croatia, Yugoslavia

Coextration of gold (III) with iron (III)
Equil. phases, compn. of
Extn. of iron (III) and gold (III) with isopropyl ether
Gold (III), extn. of
Iron (III), extn. of
Third phase in dild. isopropyl ether