

## ABSTRACTS

Effects of leaching conditions on the extraction of chromium were studied. 1. Size of ore, 2. Leaching time, 3. Amount of  $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$  added, 4. Leaching temperature, and 5. Amount of charge.

Summary of Result : Results obtained are summarized in Table 1, which shows the optimum conditions for extraction of chromium.

If the acid concentration was increased up to 60%, insoluble brownish-yellow precipitate was formed in the presence of  $(\text{HN}_4)_2\text{Cr}_2\text{O}_7$  in both cases of leaching.

---

### Reaction of *n*-Hexyl Bromide with Potassium Fluoride in Several Glycols

Hisao KITANO and Ken-ichi FUKUI

(Kodama Laboratory)

*J. Chem. Soc. Japan. Ind. Chem. Sec. (Kōgyō Kagaku Zasshi)*, **60**, 272 (1957)

Reactions of *n*-hexyl bromide with potassium fluoride in isomeric propanediols and butanediols are studied. *n*-Hexyl fluoride is obtained in high yields by the use of such glycols that have two adjacent hydroxy groups in the molecule. Two geometrical isomers of 1,2-cyclohexanediols are used as the solvent. The yield of *n*-hexyl fluoride is ca. 30% in the *trans* isomer, whereas it's only 2% in the *cis* isomer.

---

### Nitration of Desoxybenzoin

Michiyasu SUGI and Risaburo NAKAI

(Nakai Laboratory)

*J. Org. Chem.*, **22**, 288 (1957)

The reaction routes of desoxybenzoin with nitric acid ( $d=1.30$ ) were studied by using  $\text{C}^{14}$ -tracer technique. By the nitration of desoxybenzoin-carbonyl- $\text{C}^{14}$  (I) ( $12.95\mu\text{c}/\text{m.mole}$ ) there were obtained *p*-nitrobenzil-carbonyl- $\text{C}^{14}$  (II) ( $12.92\mu\text{c}/\text{m.mole}$ ), benzil-carbonyl- $\text{C}^{14}$  (III) ( $12.96\mu\text{c}/\text{m.mole}$ ), inactive *p*-nitrobenzoic acid (IV) and benzoic acid-carboxyl- $\text{C}^{14}$  (V) ( $11.29\mu\text{c}/\text{m.mole}$ ). When treated with alcoholic potassium hydroxide, II decomposed into inactive *p,p'*-azoxydibenzoic acid, inactive *p*-nitrobenzoic acid and benzoic acid-carboxyl- $\text{C}^{14}$  ( $12.96\mu\text{c}/\text{m.mole}$ ). These facts indicate that the nitration occurs at the *para* position to the methylene group of I.

The non-labeled specimens of *p*-nitrodesoxybenzoin, *p*-nitrobenzil, and benzil were treated with the nitric acid, respectively. *p*-Nitrodesoxybenzoin gave benzoic acid, *p*-nitrobenzoic acid, and *p*-nitrobenzil. Benzil and *p*-nitrobenzil, however, were resistant to nitration and oxydation, and were recovered without loss. The specific activity of V is comparatively lower than the theoretical value. These results would lead to the following conclusions. In the action of the nitric acid on desoxybenzoin-carbonyl- $\text{C}^{14}$ , the *p*-nitrodesoxybenzoin-carbonyl- $\text{C}^{14}$  is formed as an intermediate, and its methylene group is oxidized to *p*-nitrobenzil-carbonyl- $\text{C}^{14}$ . While oxidative disruption of the same intermediate gives benzoic acid-carboxyl- $\text{C}^{14}$