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Synergistic extraction of some univalent cations into phenyltrifluoromethyl sulfone by using cesium dicarbollylcobaltate and calix[4]arene-bis(t-octylbenzo-18-crown-6)



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Short Communication

# Synergistic extraction of some univalent cations into phenyltrifluoromethyl sulfone by using cesium dicarbollylcobaltate and calix[4]arene-bis(*t*-octylbenzo-18-crown-6)

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## ABSTRACT

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From extraction experiments and  $\gamma$ -activity measurements, the exchange extraction constants corresponding to the general equilibrium  $M^+ (aq) + \mathbf{1}\cdot Cs^+(org) \rightleftharpoons \mathbf{1}\cdot M^+ (org) + Cs^+ (aq)$  taking place in the two-phase water-phenyltrifluoromethyl sulfone (abbrev. FS-13) system ( $M^+ = Ag^+, Tl^+, K^+, Rb^+$ ;  $\mathbf{1}$  = calix[4]arene-bis(*t*-octylbenzo-18-crown-6); aq = aqueous phase, org = FS-13 phase) were determined. Further, the stability constants of the  $\mathbf{1}\cdot M^+$  complexes in FS-13 saturated with water were calculated; they were found to increase in the series of  $K^+ < Rb^+ < Ag^+ < Tl^+$ .

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### Keywords:

Univalent cations

Calix[4]arene-bis(*t*-octylbenzo-18-crown-6)

Complexation

Extraction and stability constants

Water- phenyltrifluoromethyl sulfone system

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