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### BOOK OF ABSTRACTS

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## SELECTIVITY IN REACTIVE EXTRACTION OF 7-AMINODEACETOXY- CEPHALOSPORANIC ACID AND CEPHALEXIN WITH ALIQUAT-336

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### ABSTRACT

The reactive extraction of 7-ADCA (aminodeacetoxycephalosporanic acid) and Cephalexin with Aliquat-336 (tricaprylmethyl ammonium chloride) dissolved in n-butyl acetate as solvent has been studied over a pH range of 5 to 8. The effect of such parameters as Aliquat-336 concentration, pH and 7-ADCA and Cephalexin concentrations on distribution coefficient in the reactive extraction system has been evaluated. It was found that distribution coefficient ( $K_d$ ) increases with increases of the aqueous phase pH implying that the anionic forms of the dissociated 7-ADCA and cephelexin are amendable for reactive extraction. Furthermore inference of practical relevance that could be drawn from the present study is that 7-ADCA and cephelexin can be selectively extracted from an aqueous solution typical of that encountered in biosynthesis of 7-ADCA and cephelexin. A systematic study on reextraction of 7-ADCA and cephelexin from the extracted phase was carried out using an aqueous solution of citrate buffer at different pH values and was found to be pH dependent which is also attributable to ionization behaviour of the beta-lactams. Such observation is considered important as re-extraction at an appropriate pH value is possible.

**Keywords:** Distribution coefficient, 7-ADCA and Cephalexin antibiotics, Ion exchange, re-extraction, Aliquat-336.