

Kinetic properties of Δ^5 -3-ketosteroid isomerase from *Comamonas testosteroni* in organized heterogenic media

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In addition to their suitability to the enzymatic transformation of water-insoluble materials, reverse micelles represent a model study for enzymes at interfaces and in water-restricted environments. A variety of enzymes, substrates, surfactants and solvents have been tested for reactions in this poor water media. In order to clarify the effect of water, surfactant, co-surfactants concentrations on activity catalytic of conversion of water insoluble substrates, we carried out experiments on the isomerization of ketosteroids by Δ^5 -3- ketosteroids isomerase from *Comamonas testosteroni* in anionic, neutral or cationic surfactants reversed micellar system at 25°C. The principal results obtained are: (i) the enzyme exhibited activity and stability in these systems (ii) the reactions is well characterized by the parameter w_0 , which depend of water and surfactants concentrations, (iii) the pH optimum of the activity shifts markedly from that in aqueous solution system, (iv) the catalytic efficiency is limited by transfer rate of substrate from the organic phase to inner aqueous phase.