EVIDENCE FOR SCHIFF BASE FORMATION IN ENZYMATIC ALDOL CONDENSATIONS[1]

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The aldol condensation reactions catalyzed by fructose diphosphate aldolase (FDP aldolase) and transaldolase have been shown to involve Schiff base intermediates with the substrate carbonyl groups (Horecker et al. 1961, Grazi et al. 1962, Grazi et al. 1962a). The intermediate formed with transaldolase is sufficiently stable to permit direct isolation and characterization; it reacts with aldehyde acceptors as expected and releases dihydroxyacetone when the enzyme is denatured by heat. The active site of the enzyme, responsible for formation of the active intermediate, has been identified with both FDP aldolase and transaldolase as an ϵ-amino [illegible]