

Mediated degradation of cinnamyl chloride by electrochemically generated Co(I)(bipyridine) in aqueous CTAB solutions

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Cinnamyl chloride (one of the allyl chloride derivative) is one of the prominent environmental pollutant. This work reports cinnamyl chloride degradation by electrogenerated  $[\text{Co(I)(bpy)}_3]^+$  (where bpy = 2,2'-bipyridine) electron mediator in environmentally benign CTAB aqueous solutions and examine the effects of phenyl substitution on the electrocatalytic degradation reaction. Cyclic voltammetry over a range of scan rates and cinnamyl chloride concentrations identified the rate limiting mechanism for Co(I)-catalyzed cinnamyl chloride degradation, which is compared with allyl chloride degradation for the phenyl substitution effect.