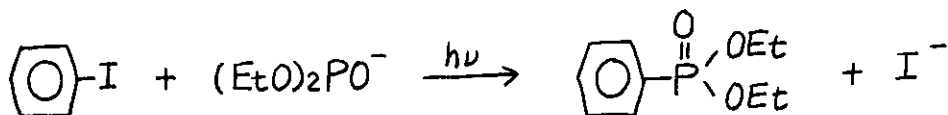


Reactions of Sodium Diethyl Phosphite with Some Aryl Halides

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Under photostimulation, aryl halides react with diethyl phosphite ion to form arylphosphonate esters:



These and related reactions occur in excellent yield, and are useful for synthesis. They are believed to occur by the radical chain, $S_{\text{RN}}1$ mechanism. Studies of the behavior of dihalobenzenes have furnished a remarkable set of observations that are intelligible in terms of the postulated mechanism. *o*-Haloiodobenzenes react under photostimulation in the usual $S_{\text{RN}}1$ fashion, but they also react in the dark by an ionic mechanism that itself has some interesting features.