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New and Stereospecific Synthesis of α -Ethylenic Ketones

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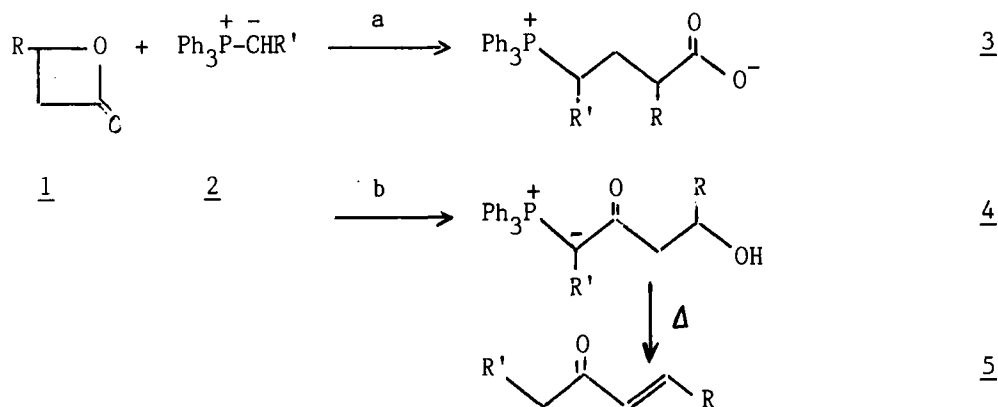
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NEW AND STEREOSPECIFIC SYNTHESIS OF α -ETHYLENIC KETONES

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H. Kise et al ¹ have shown that the reaction of β -propiolactones 1 with ylides 2 give phosphonium carboxylate betaine 3. We now report that, carried out under different conditions, reaction of lactones 1 with the same ylides proceeds through pathway (b). Thermolysis of 4 affords α -ethylenic ketones 5. The mechanism of this new extrusion reaction of triphenylphosphine oxide probably involves the generation of an oxaphosphene as an intermediate.



(a) ylide 2 prepared from phosphonium bromide and NaNH_2 in THF.

(b) ylide 2 prepared from the same salt and tBuOK in toluene.

(1) H. Kise, Y. Arase, S. Shiraishi, M. Seno and T. Asahara, J.Chem. Soc., Chem. Comm., 299 (1976)