

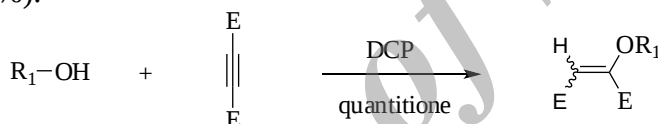
Reaction between alkyl alcohols and dimethyl acetylenedicarboxylate in the presence of 2,6-dichloropyridine as catalyst

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The addition reaction between electron-deficient acetylenic compounds and nitrogen-containing heterocycles has been extensively investigated.¹ The reaction of pyridine with dimethyl acetylenedicarboxylate (DMAD) yields a zwitterionic compound which can be trapped by various electrophiles.^{1,2} When the reaction of pyridine and DMAD was carried out in the presence of CH-acids such as dimedone, or 1,3-indandione 1,4-diionic derivatives were obtained.² Here we report the reaction between 2,6-dichloropyridine (DCP) with dimethyl acetylenedicarboxylate in different alcohols as solvent. Thus reaction between DMAD and DCP in methanol after 2 h stirring at room temperature afforded vinyl ether derivative 3a. Similar reactions were carried out with ethanol and isopropyl alcohol and similar products were obtained in good yields. The NMR spectra of products showed the presence of two regioisomers. This reaction may also have been done with catalytic amounts of DCP (20 mol%).



1, 3	E	R	Yield%
a	Me	Me	95
b	Me	Et	97
c	Me	i-pr	99

*isolated yield

References

- [1] R. M. Acheson, N. F. Elmore, *Advances in Heterocyclic Chemistry*, 23, 263, **1978**.
 [2] I. Yavari, M. Anary-Abbasinejad, A. Alizadeh, *Chemical Monthly*, 133, 1331, **2002**.