

THE POLAR CYCLOADDITION REACTION OF N-(2'-PYRIDYL)-
3,5-DINITRO-2-PYRIDONE WITH ELECTRON RICH OLEFINS

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The reaction of a very electron deficient aromatic compound, N-(2'-pyridyl)-3,5-dinitro-2-pyridone (1) with various electron rich olefins was investigated. Several kinds of addition compounds were afforded depending on the nature of the olefins and the reaction conditions. When the reaction was carried out with p-methoxystyrene or methylcyclopentadiene in DMF at low temperature, the product was mainly a 1:1 addition compound (2), which has a fused isoxazine ring derived from a polar cycloaddition between the pyridone C=C-N(O)=O unit and the olefin C=C unit. Whereas a Meisenheimer type 1:1 addition compound (3) was yielded from the reaction of (1) with ethyl vinyl ether or ethyl vinyl sulfide under the same conditions. Further cycloadditions of the olefins were occurred via the intermediate (2) to afford 1:2 and 1:3 addition compounds (4) and (5).

