

tion and solvent removed from the filtrate by flash evaporation with a minimum of heating. The product light brown powder was washed with cold water and collected; yield 0.44 g. (34%). Recrystallization from the minimal amount of absolute ethanol gave the product acid, m.p. 243-245°.

Ethyl 2-Cyano-3-(5-methoxy-4*H*-pyran-4-on-2-yl)propenoate (III).

Glycine (30 mg.) was added to 0.5 ml. of glacial acetic acid in 50 ml. absolute ethanol. To this solution was added, all at once, 1.6 g. of ethyl cyanoacetate and 1.0 g. of comenaldehyde methyl ether. The reaction mixture was heated under reflux for two hours, and then was stirred (magnetic bar) at room temperature for eight hours. The yellow powder which precipitated was collected by filtration, washed with ice water and air-dried, yield 1.1 g. (69%). The analytically pure compound, m.p. 217-219°, was obtained as a light yellow powder by recrystallization from absolute ethanol.

Anal. Calcd. for $C_{12}H_{11}NO_5$: C, 57.83; H, 4.45; N, 5.62. Found: C 57.83; H, 4.55; N, 5.77.

2-Cyano-3-(5-methoxy-4*H*-pyran-4-on-2-yl)propenamide (IV).

Glycine (30 mg.) was added to a suspension of 0.55 g. of cyanoacetamide in 50 ml. of absolute ethanol containing 0.5 ml. of glacial acetic acid. The resulting suspension was heated to effect solution, and then to the warm solution was added, all at once, 1.0 g. of comenaldehyde methyl ether. The reaction mixture was heated under reflux for two hours; the aldehyde dissolved initially, and then there occurred slow formation of a yellow precipitate. The mixture was stirred (magnetic bar) at room

temperature for an additional eight hours. The yellow precipitate was collected by filtration, washed with a small amount of water, and air-dried, yield 0.62 g. (43%). The substance was insoluble in the common solvents, and was purified by successive lixiviations with the following hot solvents: ethanol, carbon tetrachloride, methylene chloride and water, to give the analytically pure title compound, m.p. 259-261° dec.

Anal. Calcd. for $C_{10}H_8N_2O_4$: C, 54.55; H, 3.64; N, 12.73. Found: C, 54.44; H, 3.69; N, 12.56.

Acknowledgement.

This investigation was supported in part by a research grant (E-1703) from the National Institute of Allergic and Infectious Diseases, U. S. Public Health Service.

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