uses of organic azides in organic synthesis

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-4-(p-Methoxy-benzylidene) 2-phenyl-I-irnidazolono -acetic acidazide (3a) and 4-(p methoxy-benzylidene) 2-(p-methoxy-phenyl)-1-imidazolono-acetic acid azide (3b) were newly prepared from thecorresponding acid chlorides. Imidazolone which is a part of the azideshave been found to be associated with several pharmacologicalactivities(l75.178) as well as the herbicidical activities of diaryl ureas(179),soit is planed to study the biological activity of some of the synthesizedcompounds.The present investigation deals with the preparation of organiccompound via the decomposition reactions of azides (3 a&b) underdifferent conditions (base- , acid- and neutral-catalyzed decomposition).Azides (3a and lor 3b) underwent base catalyzed decompositionwith aromatic amines to give the corresponding anilides (4a - f) via azidogroup displacement. However azides (3a and/or 3b) underwent basecatalyzed decomposition with amino benzoic acids to give thecorresponding ureas derivatives (5 a - d) via Curtius rearrangement .Onthe o.ther hand catalyzed decomposition of azide (3a) with hydrazineswhich and aroyl hydrazins gave the corresponding hydrazides (8 a,b) andaroyl hydrazides (8c-e) respectively via azido group . When aroylhydrazides (8c-e) were refluxed in acetic anhydride it was easilycyclized to the corresponding oxadiazole derivatives (9 a-c). Howeverazide (3b) underwent base-catalyzed decomposition with hydrazinehydrate and lor phenyl hydrazine to give the corresponding semicarbazides(lOa and lOb) via Curtius rearrangement.Decomposition of azides (3a and lor 3b) with glycine gaveoxazolinone derivatives (12a and 12b) respectively, via azido groupdisplacement.Decomposition of azides (3 a&b) in neutral midium (water) gavethe corresponding sym, diaryl ureas (13a and l3b) via Curtiusrearrangement.Lewis acid - catalyzed decomposition of azide (3a) with anhydrousAICh in benzene gave methylamino-N-benzoyl derivatives (14) viaCurtius rearrangement .On the other hand azide (3b)under Lewis acidcatalyzeddecomposition of azide (3b) with anhydrous AICh in benzeneto give the corresponding ketone (15) via azido group displacement.Acid chloride (2a) underwent internal Friedel Craft reaction in thepresence of anhydrous AICh in tetra chloro-ethane to give isquinolinderivative (16) .Also acid chloride (2a) reacted with ammoniumthiocyanate in dry acetone to give isothiocyanate derivative (17) whichwhen treated with arylidene - arylamine it gave the correspondingoxadiazine thione derivatives (18 a - c).Some of the synthesized compounds were tested toward(Bacillussubtilis, Bacillus megaterium, Aspergillus sp. and Penicillium sp.) .The structure of the synthesized compounds were proved by infraredspectra and elemental analysis in Cairo University . Mass spectra andJ H.N.M.R of the some

synthesized compound were also investigated.