Synthesis of Some Novel Antioxidant and Anticorrosive Additives for Egyptian Lubricating Oils

Habib, OMO (Habib, O. M. O.)[1]
Hassan, HM (Hassan, H. M.)[1]
Moawad, EB (Moawad, E. B.)[1]
El-Mekabaty, A (El-Mekabaty, A.)[1]

Abstract

The starting oxazolone I was reacted with p-aminophenol in glacial acetic acid to afford imidazolone 2, which afforded Mannich base 3 via the reaction with piperidine and paraformaldehyde. Moreover, the reaction of 2 with ethylchloroacetate or chloroacetic acid in dry acetone gave the corresponding imidazolones 4 and 5, respectively. Compound 4 reacted with benzylamine or 4-chlorobenzaldehyde to furnish 6 and 7, respectively. On the other hand, oxazolone I reacted with hydrazines in glacial acetic acid to afford the 1,2,4-triazines 11-15. Representative compounds of the synthesized products were established and evaluated as antioxidant and corrosion inhibitors for gasoline lube oils

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Reprint Address: El-Mekabaty, A (reprint author), Mansoura Univ, Fac Sci, Dept Chem, Mansoura 35516, Egypt.

Addresses:

[1] Mansoura Univ, Fac Sci, Dept Chem, Mansoura 35516, Egypt

E-mail Address: a_el_mll@yahoo.com

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The Synthesis and Evaluation of Some New Multifunction Additives for Egyptian Gasoline Motor Oils

Hassan, HM (Hassan, H. M.)[1]
Habib, OMO (Habib, O. M. O.)[1]
; Moawad, EB (Moawad, E. B.)[1]
El-Bana, GG (El-Bana, G. G.)[1]

Abstract

2-[2-(1,3-Diphenyl-1H-pyrazol-4-yl)-vinyl]-benzo[d][1,3]oxazin-4-one (2) was utilized as a key intermediate for the synthesis of some new quinazolinone derivatives incorporating diphenylpyrazole moiety. Treatment of benzoxazine derivative 2 with different amines, namely, p-phenylenediamine, p-anisidine, p-toluidine, sodiumazide, hydroxylamine hydrochloride, phenyl hydrazine, and hydrazine hydrate afforded pyrazolyl quinazoline derivatives 3, 4, 5, 6, 7, 9, and 10, respectively. Structure 10 was undergoing acetylation and benzoylation with acetic anhydride or benzoyl chloride to afford 11 and 12, respectively. Representative compounds of the synthesized products were established and evaluated as antioxidant and corrosion inhibitors for gasoline lube oils.

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Reprint Address: Hassan, HM (reprint author), Mansoura Univ, Fac Sci, Dept Chem, El Gomhoria St, Mansoura 35516, Egypt.
Addresses:
[1] Mansoura Univ, Fac Sci, Dept Chem, Mansoura 35516, Egypt
E-mail Address: prof.drhussain@yahoo.com
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The Evaluation of Some Heterocycles as Antioxidant Additives for Lubricating Oils

Habib, OMO (Habib, O. M. O.)[1]

Hassan, HM (Hassan, H. M.)[1]

Moawad, EB (Moawad, E. B.)[1]

El-Hadidy, M (El-Hadidy, M.)[1]

Abstract

2-Phenyl-4-thienylidene-2-oxazolin-5-one I was prepared and reacted with 2-aminothiazole, p-aminophenol, and p-aminoacetophenone in the presence of acetic acid containing catalytic amounts of freshly fused sodium acetate to give the corresponding imidazolone derivatives II, III, and IV, respectively. A Claisen reaction of IV with ethylacetate gave the corresponding imidazolone V, which on reaction with phenylhydrazine in ethanol afforded the corresponding pyrazolinoimidazolone VI. On the other hand, I reacted with o- and p-phenylenediamines in ethanol and yielded the corresponding o- and p-aminophenylcarboxamide of -phenyl carboxamido--thiophenoacrylic acids VII and VIII, respectively. The prepared products were evaluated as antioxidant additives for Egyptian lube oils. Some of these products showed good results.

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Reprint Address: Habib, OMO (reprint author), Mansoura Univ, Fac Sci, Dept Chem, El Gomhoria St,Univ Bldg, Mansoura 35516, Egypt.

Addresses:
[1] Mansoura Univ, Fac Sci, Dept Chem, Mansoura 35516, Egypt

E-mail Address: habibosman@ymail.com

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