

Área: ORG

Synthesis of oxazolones derivatives by the Plöchl-Erlenmeyer method.

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Keywords: azlactones, Plöchl-Erlenmeyer synthesis, FTIR

Highlights

Heterocyclic chemistry

Plöchl-Erlenmeyer synthesis

Resumo/Abstract

Oxazolones are heterocyclic compounds obtained by the Plöchl–Erlenmeyer method, which involves the reaction between hippuric acid (I), aldehydes (II), acetic anhydride, and sodium acetate. This study aimed to synthesize and characterize different oxazolone derivatives (Figure 1).

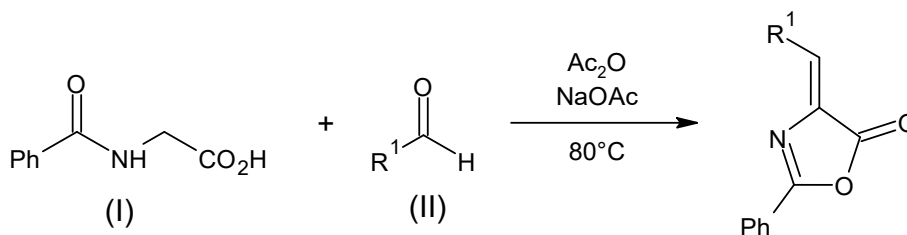


Figure 1. Plöchl-Erlenmeyer synthetic route for oxazolones

Table 1 summarizes the yields and melting points obtained with different aldehydes. It was observed that the 4-hydroxy-substituted derivative showed the highest yield (72.27%), while the 4-*N,N*-dimethylamino derivative exhibited the lowest yield (46.09%). Regarding melting points, all synthesized compounds showed good agreement with values reported in the literature, especially the 4-nitro and 4-methoxy derivatives, confirming the successful formation and purity of the obtained products. The oxazolone derivatives obtained were also characterized by infrared spectroscopy.

Table 1 – Results of the synthesized oxazolone derivatives.

R'	Yield (%)	m.p.(°C)	R'	Yield (%)	m.p.(°C)
4-NO ₂ Ph	65,65	244-6	4-NMe ₂ Ph	46,09	212-4
4-OHPh	72,27%	170-2	4-OMePh	64,7	157-9
2-Furil	64,0%	170-1	-	-	-

All obtained derivatives will be tested against some pathogenic microorganisms, especially fungi and bacteria.

Agradecimentos/Acknowledgments

Brenda Dias acknowledges PET Química for financial support.