

*Synthesis of hydrophobically modified isoxazolidines for their potential use
as corrosion inhibitors*

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ABSTRACT

Several new isoxazolidines having varying degree of steric environment and hydrophobic alkyl chains are prepd. efficiently using single-step nitronc cycloaddn. reactions. The resultant 2,5-disubstituted isoxazolidines contg. Me, iso-Pr and t-Bu groups at N(2) and alkyl groups C₆H₁₃, C₁₀H₂₁, C₁₂H₂₅, C₁₄H₂₉ and C₁₆H₃₃ at C(5) positions are characterized by NMR spectral analyses. At lower temp. (-30°C) the NMR spectra revealed the presence of two distinct interconverting forms of the isoxazolidines due to slow N inversion process. One of the isoxazolidines was quaternized with 1-bromotetradecane and propargyl chloride. The isoxazolidine on ring opening reaction with zinc in acetic acid afforded an 1,3-aminoalc. Preliminary study indicated the excellent corrosion inhibition of mild steel in acidic medium by the synthesized compds.