Anti-Inflammatory activity Of newly synthesized 7-chloro-2-methyl-4H-benzo[d][1,3]-oxazin-4-one and 3-amino-7-chloro-2-methyl-quinazolin-4(3H)-one

Osarumwense Peter Osarodion
Ondo State University of Sciences and Technology, Nigeria

Abstract
Heterocyclic chemistry comprises at least half of all organic chemistry research worldwide in particular, heterocyclic structures form the basis of many pharmaceutical, agrochemical and veterinary products. The condensation of Methyl-2-amino-4-Chlorobenzoate with acetic anhydride yielded the cyclic compound 2-methyl 7-Chloro-1, 3-benzo-oxazine-4-one (1) which further produce 3-Amino-2-Methyl 7-Chloro quinazolin-4(3H)-ones (2) via the reaction with hydrazine hydrate. The compounds synthesized were unequivocally confirmed by means of Infrared, Nuclear Magnetic Resonance (¹H and ¹³C), Gas Chromatography-Mass spectrometry and Elemental analysis. Compound 1 and 2 has Anti-inflammatory activity of 96.78%, 95.71% and 97.62%, 95.35% at 10mg/kg and 20mg/Kg dose levels. Compound 1 has IR spectrum showed signals for carbonyl functional group at 1662 cm⁻¹, 1375 and 1217 cm⁻¹ respectively. The ¹H NMR spectrum showed three aromatic protons at δΗ 7.59, 7.16 and 6.40 and a vinyl methyl protons at δΗ 5.80 in the range δC 131.15 – 141.23. The resonances at δC 153.13 and δC 22.15 were due to the imine oxygenated carbon (C-1) and the methyl carbon respectively. Compound 2, had NMR data similar to 1, except for an additional signal at δΗ 5.80 in the ¹H NMR spectrum which was attributed to the amino protons (2H). Compound 2 had a higher anti-inflammatory activity than Compound 1. The compounds synthesized had a higher anti-inflammatory activity than Indomethacin, a standard anti-inflammatory drug.

Biography:

DR. OSARUMWENSE PETER OSARODION has completed his PhD in Organic Chemistry at the Federal University of Benin, Benin City, Edo State, Nigeria at the age of 35 years. He is the Lecturer of Ondo State University of Science and Technology, Ondo State, Nigeria a premier University. He has published more than 22 papers in reputed journals and has been serving as an editorial board member of repute.

Speaker Publications:

1. “Analgesic activity of newly synthesized 7-chloro-2-methyl-4H-benzo[d][1,3]-oxazin-4-one and 3-amino-7-chloro-2-methyl-quinazolin-4(3H)-one”; Sciendo, 2018, 10.2478/auoc-2018-0003

2. “Synthesis and Antibacterial Activity of 7-chloro-2-methyl-4H-benzo[d][1,3]-oxazin-4-one and 3-amino-7-chloro-2-methyl quinazolin-4(3H)-one”; Tropical Journal of Natural Product Research, 2017, 10.26538/tjnpr/v1i4.7


Abstract Citation:
Osarumwense Peter Osarodion, Anti-Inflammatory activity Of newly synthesized 7-chloro-2-methyl-4H-benzo[d][1,3]-oxazin-4-one and 3-amino-7-chloro-2-methyl-quinazolin-4(3H)-one, Euro Medicinal Chemistry 2020, 12th International Conference on Medicinal Chemistry and Drug Discovery, October 14-15, 2020, webinar.