# New indolinone 1, 2, 3-triazole derivatives: Design, synthesis and anti-Alzheimer activity evaluation

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**Abstract**

Novel 1,2,3-triazole indolinone derivatives have been synthesized. All the titled compounds were characterized by $^{1}$H NMR, $^{13}$C NMR, MS and IR spectral data. The *in vitro* AChE and BChE inhibitory activity of all the compounds were evaluated.

**Introduction:**

Alzheimer disease is the most frequent cause of dementia, which is very common in elder population with high morbidity. Treatment of this disease is one of the most promising targets in medicinal chemistry researches. Design and synthesis of novel 1,2,3 diazole indolinone derivatives as cholinesterase inhibitor (ChEI), are investigated in this study. Indolinone derivatives with 1,2,3-triazole moiety have been recently reported as potential AChE and BuChE inhibitors. There is also, a growing interest in evaluating the biological activity of these compounds and their derivatives to investigate their role in the prevention of neurodegenerative diseases.

**Methods and Results:**

The target compounds were prepared *via* the 1-methyl-3-((prop-2-yn-1-yloxy)imino)indolin-2-one as an intermediate in click reaction with substituted benzyl halides in water and DMF as solvent in room temperature. All the synthesized compounds were characterized by $^{1}$H NMR, $^{13}$C NMR, MS and IR spectral data. The *in vitro* AChE and BuChE inhibitory activity of all the compounds were evaluated.

**Conclusions:**

In conclusion, various novel 1,2,3-triazole indolinone derivatives were designed, synthesized, and evaluated against AChE and BChE. All these results clearly confirmed the efficacy of the corresponding compounds for further drug discovery developments.

**Key words:** Synthesis, AChE, BuChE, Alzheimer Disease (AD), Indolinone, 1,2,3-triazole, Click reaction.