



Solvent-Free Solid Phase Syntheses of 2-Chloroquinoline-3-carbaldehyde Phenyl Hydrazones and their DNA Cleavage Studies

**N.Chandrika¹, T.H. Suresha Kumara^{1,3*}, Gopalpur Nagendrappa¹, P.R. Chetana²,
H.B.V.Sowmya¹, S.K.Rashmi¹, R. Dileep³, C. Sandeep⁴**

1. PG Department of Chemistry, Jain University, Bangalore - 560019, Karnataka, **INDIA**

2. Department of Chemistry, Bangalore University, Bangalore-560001, **INDIA**

3. Department of Chemistry, GITAM University, Bengaluru Campus, Bangalore, 561203, **INDIA**

4. Department of Chemistry, Sahyadri Science College, Shimoga, Karnataka, **INDIA**

Email: suresha.kumara@gmail.com

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ABSTRACT

In this article, the authors describe the synthesis of 2-chloroquinoline-3-carbaldehyde phenyl hydrazones by two methods – (1) in solution, by stirring the reactants in MeOH at room temperature over a long period of time (2-15 h) and, (2) in solid state by grinding reactants together to form products in dramatically short time (in <15 min). The hydrazones obtained are tested for their DNA cleavage properties and some of them are found to show good chemical nuclease activity in the presence of both oxidizing agent (H₂O₂) and reducing agent (MPA). Some of them exhibited hydrolytic activity, and their antioxidant activity was found to be very low.

Keywords: Solvent free synthesis, Green chemistry, DNA cleavage, Quinoline, Hydrazone.
