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A new approach for the synthesis of strobilurin fungicide analogues: Synthesis, characterization, antifungal study and molecular docking investigation

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In an effort to protect plants from fungal diseases and to enhance the stability of the strobilurin fungicides, we report herein, an efficient and simple approach for the synthesis of strobilurin fungicide analogues. The synthesised compounds were characterised by IR, NMR and LC-MS spectroscopic techniques. The antifungal efficacies of the synthesised compounds were tested against plant pathogens namely *Curvularialunata*, *Rhizoctonia solani* and *Sclerotium rolfii* by using poison food/pour plate and spore germination methods. *Azoxystrobin* and *Tebuconazole* are used as standards in the analysis. Further, the synthesized compounds were subjected to *in silico* studies to know the bonding interactions with bovine cytochrome Bc1 and CYP51 protein of cytochrome 450.

Keywords: Strobilurin fungicide, Plant pathogens, Poison food plate, Spore germination, Molecular docking