ONE POT GREEN SYNTHESIS OF 1,5-BENZOTHIAZEPINES AS ANTICONVULSIVE AGENTS

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Green Synthesis is defined as environmentally benign chemical synthesis. The various approaches of green chemistry include use of green reagent in synthesis, green catalyst; microwave induced green synthesis and ultrasound assisted green synthesis. All these approaches help in reducing the atmospheric pollution.

The microwave-assisted synthesis is one of the non-conventional techniques used now a days in laboratory for the synthesis of organic compounds. This is an eco friendly technology and helps to prevent pollution . We were therefore interested in developing a rapid, microwave-assisted protocol of 1,5-Benzothiazepines. One pot efficient green synthesis of benzothiazepines by reaction of 2-aminothiophenol with different propeophenones in presence of ecofriendly catalyst Zirconyl Chloride under solvent free conditions was investigated. The Compounds were purified by chromatographic techniques and by recrystalisation from suitable solvents. The chemical structures of the compounds were proved by analytical and spectral data.

The newly synthesized compounds were tested in vivo for their anticonvulsant and antidepressant activity. The compounds have shown excellent antidepressant activity and promising anticonvulsive activity. Anticonvulsant activity screened by the maximum electroshock method using phenobarbitone as a standerd.The locomotor activity also monitored by actophotometer.