

Chapter four

4. Conclusion and recommendation

- A fast, clean and productive synthesis of a series of 1,3 diaryl chalcones of 14 compounds was achieved. The synthesis has promoted by ultrasound irradiation, the reaction were found high stereoselective to make trans enone.
- A fast, clean and productive synthesis of a series of 2-amino 4,6-aryl pyrimidines (10 compounds), 3,5-diaryl pyrazole (9 compounds), 5,3-diarylisoxazole (isolated 4 compounds), have developed, using both ultrasound and microwave irradiation in combination.
- This work provides a novel approach of combination between ultrasound as powerful tool for solvation and microwave for heterocyclization. The synthesis has showed completion in a short period of time ranged from 10-30 minutes.
- The results of spectroscopy highlight an important finding on the chemistry of studied heterocycles, particularly through EI-MS fragmentation.
- Isolation and characterization of the two isoxazole intermediates has demonstrated that the products of ultrasound assisted microwave synthesis are kinetic.
- Hence, ultrasound-assisted microwave synthesis could be used to produce a clean hetero-synthesis of reagents having soft nucleophiles which unwonted be to involve in heterocyclization.