# Dedication:

Dedicated to:

***The spirit of my father……..***

# Acknowledgements

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# Abstract

Twenty eight sulphonylureas derivatives together with their corresponding intermediates were prepared in this work. The synthetic designing of these compounds was based upon suitable retrosynthetic analysis of the target molecule through the use of the disconnection approach. Accordingly the target sulphonylureas were prepared in a three step reaction. Aryl sulphonylchloride were allowed to react with ammonia or hydrazine to form sulphonamides which were allowed to react with ethyl chloroformate to form the corresponding carbamate.

The final step involved the nucleophilic acyl substitution of some selected amines and the intermediate carbamate to form the required aryl sulphonylureas. The synthetic pathway and the mechanisms of the different reactions were given and discussed in chapter three of this work. Spectral data of the intermediate and final compounds were discussed and compared with each other in order to elucidate the structure of the prepared compounds.

# الخلاصة

**تم** تحضير ثمان وعشرين مركب في هذه الدراسة **هي** عبارة عن مركبات نهائية ووسطية لمركب السلفونايل يوريا و قد استهدفت الدراسة التغيير في المجموعات المستبدلة التي ترتبط بحلقة البنزين (مجموعة السلفونايل) ومن جهة أخرى المجموعة المرتبطة بذرة النتروجين في **اليوريا** (أي الأمين المتفاعل مع **المركب** الوسيط (الكارباميت).

**يتم** تحضير هذه المركبات بثلاث خطوات الأولى تفاعل الأمونيا مع كلوريد السلفونايل الذي يعطي السلفوناميد حيث **يتفاعل** مع ايثايل كلوروفورميت في وسط قاعدي **وتسخين** ليعطي الكارباميت الذي يتفاعل مع الأمين ليعطي السلفونايل يوريا.

**من** جانب آخر فقد **أجريت** عدة محاولات لمفاعلة **الهيدرزاين** بدلاً من الأمونيا ولكن بعد عدة محاولات كانت أغلبها لا تعطي النتائج المتوقعة تحصلنا على طريقة مُثلى لاعطاء مركبات ذات نتائج جيدة و قد تم تتبع النتائج بواسطة كروماتوغرافيا الطبقة الرقيقة وتم تحديدالمركبات النهائية والوسيطة بواسطة التحليل بالأشعة فوق البنفسجية، الأشعة تحت الحمراء، طيف الرنين النووي المغناطيسي وطيف الكتلة.

عملية التخليق الضديدي التحليلية وميكانيكيات التفاعل تم مناقشتها بالتفصيل في **الفصل** الثالث وكذلك البيانات **الطيفية** تم مناقشتها في ذات الفصل.

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