



**China 2009**  
**Pharmaceutical R&D Summit**  
*4th International Conference & Exhibition*  
 April 7-9, 2009 - Grand Hyatt Hotel - Shanghai, China



**King Abdulaziz University**

**"Green Technology of Drug Discovery Programs"**

**Drug Discovery of Benzenesulphonylurea and Thiourea Chemistry as Antidiabetic agents in Saudi Arabia**

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In King Abdulaziz University laboratories, we prepared several benzenesulphonylurea and thiourea derivatives. Chemical and antidiabetic test were done to some derivatives. The collecting data in our hands now, encourage our research strategy for continuation of the preclinical examination to these urea and thiourea derivative.

The first aim of this work is to study the hypoglycemic activity of synthesized compounds in diabetic mice. They synthesized pyrazole benzene sulphonylurea and thiourea derivatives and some related compounds (sp4) measured for their antidiabetic activity (FDD).

Compounds of pyrazole urea were tested for their antidiabetic activity in mice and one of the synthesized pyrazole thiourea in the present and discussed in this work.

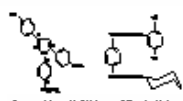
Diabetic mice that subjected to 20 and 30% Benzenesulphonylurea methyle methide. In addition FDD, in diabetic mouse, Sp4, 7, 24, 2, 3 and 13 showed FDD by 15-17% of the control animal. Sp4, 18-19, 15, 16, and 17 showed FDD by 41.7-51.1% of the control animal (table 1). Furthermore, sp4 and 13 have antidiabetic activity, while sp4 24 showed 41.

Results of sp4, 7, 5, and 13 showed that 13 was better than other sp4. It has the highest activity in mouse antidiabetic activity.

Antidiabetic activity of 13 and 7 in sp4 for 7 days showed 54% lower glucose level than control diabetic animal with urea. This effect was not by urea alone of urea.

It was concluded that pyrazole thiourea in pyrazole 4 of sulphenamide methide the hypoglycemic effect because sp4, this urea is attached to the pyrazole ring in the pyrazole group and in the sulphenamide group.

All the newly synthesized urea and thiourea hypoglycemic agents have antidiabetic activity. Furthermore, some of them are significantly antidiabetic and hypoglycemic in diabetic mice.



In the first phase, the synthesis of many new pyrazole pyrazole (1-13) (see 1) which has and low toxicity in the present synthesis. The second step is to test pyrazole pyrazole of some sulphenamide in the synthesis of pyrazole thiourea in mice.

One of the newly synthesized urea and thiourea hypoglycemic agents is discussed in this work.

Special studies have been carried out on the influence of some structural features, such as the presence of the sulphenamide group, the nature of the substituent group, and the presence of other functional groups, using chromatography, infrared spectroscopy.

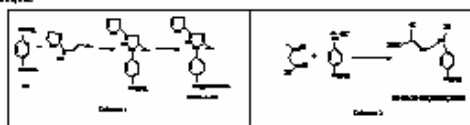
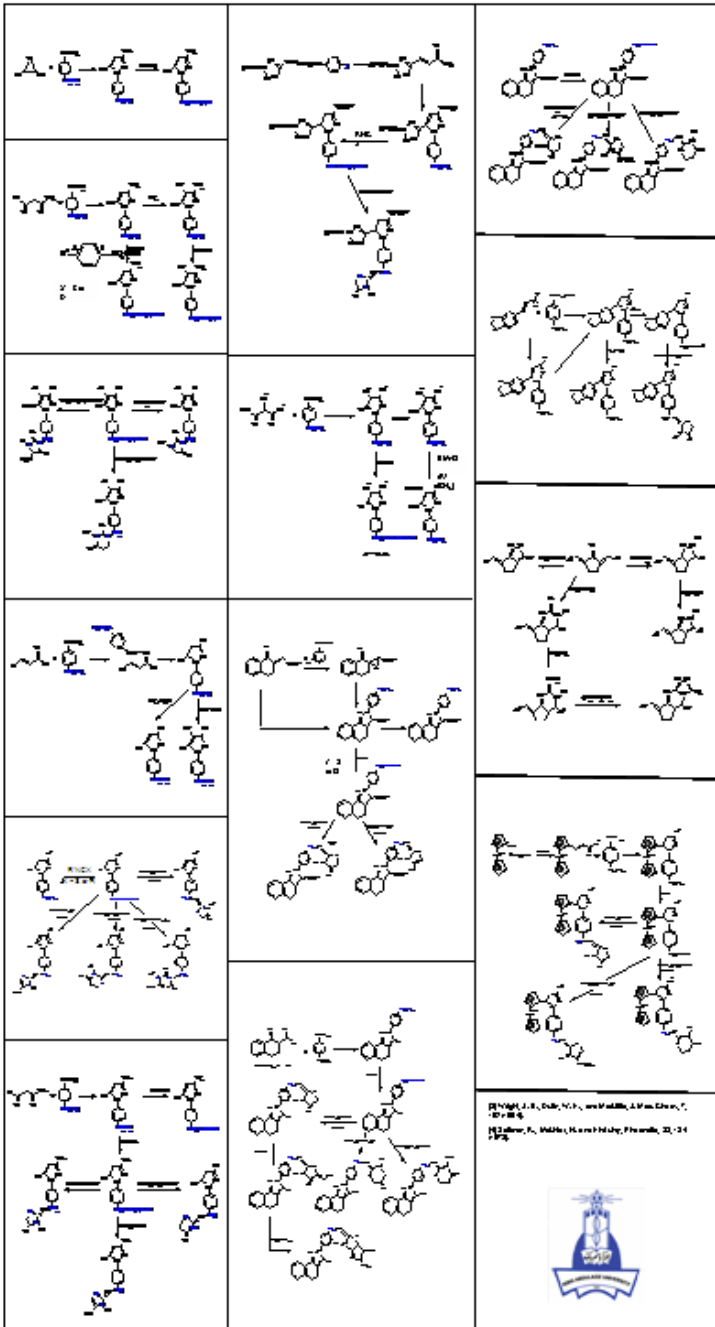


Table 1 (C)

Compound	Activity	Activity	Activity	Activity
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	0	0	0	0
25	0	0	0	0
26	0	0	0	0
27	0	0	0	0
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
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36	0	0	0	0
37	0	0	0	0
38	0	0	0	0
39	0	0	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
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56	0	0	0	0
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61	0	0	0	0
62	0	0	0	0
63	0	0	0	0
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67	0	0	0	0
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73	0	0	0	0
74	0	0	0	0
75	0	0	0	0
76	0	0	0	0
77	0	0	0	0
78	0	0	0	0
79	0	0	0	0
80	0	0	0	0
81	0	0	0	0
82	0	0	0	0
83	0	0	0	0
84	0	0	0	0
85	0	0	0	0
86	0	0	0	0
87	0	0	0	0
88	0	0	0	0
89	0	0	0	0
90	0	0	0	0
91	0	0	0	0
92	0	0	0	0
93	0	0	0	0
94	0	0	0	0
95	0	0	0	0
96	0	0	0	0
97	0	0	0	0
98	0	0	0	0
99	0	0	0	0
100	0	0	0	0

Since several 3,5-dine pyrazoles possess hypoglycemic activities as great as 100 times that of benzbamide inglicoseprimed in diabetic (2,4), studies have been conducted on the synthesis of new derivatives and its substituted pyrazoles.



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