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POTENTIAL BIOLOGICAL ACTIVITY OF CHALCONES : A REVIEW

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ABSTRACT

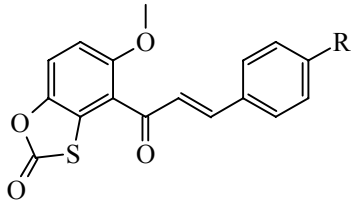
Chalcones are 1,3-diphenyl-2-propene-1-one, consist of two aromatic rings linked by a three carbon α,β-unsaturated carbonyl system. The chemistry of chalcones has generated intensive scientific studies throughout the world. In these our aim to summarize chalcones biological activities likes anticancer, antimicrobial, analgesic and antiviral activities etc.

Key words: Chalcones, Anticancer, Antimicrobial, Antiviral, Anti-inflammatory.

INTRODUCTION

Chalcones considered as the precursors of flavonoids and isoflavonoids, are products of condensation of aromatic aldehydes with acetophenones in the presence of alkali. Chalcones, which can be found in plants as secondary metabolites. Derivatives of those may possess variety of biological activities such as anti-inflammatory, antibacterial, antiviral, antituberculoid, antifungal, antimalarial, antitumor, and antioxidant activities.

Table 1: Various pharmacological activities of 1,3-diphenyl-2-propene-1-one derivatives

S. No.	Author	Structure	Pharmacological activity
1	T. K. Marek *et al.*		Antitumor activity[1]

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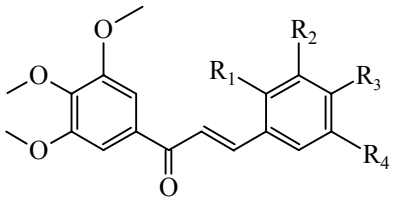
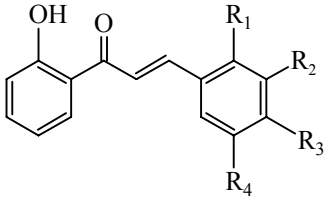
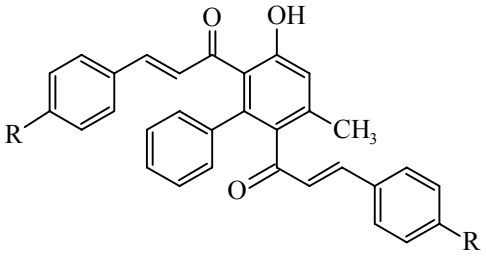
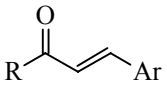
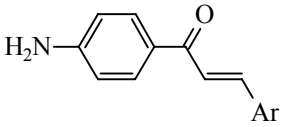
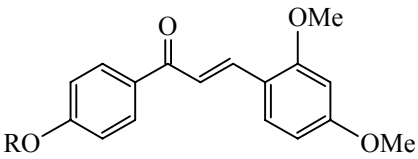
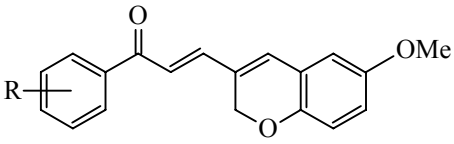
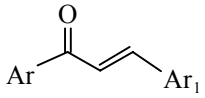
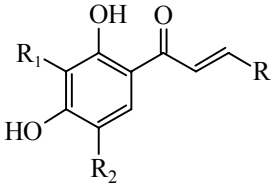
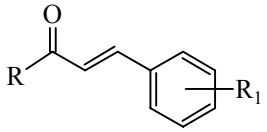
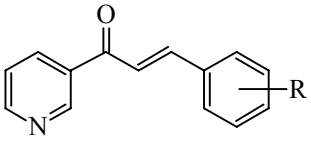
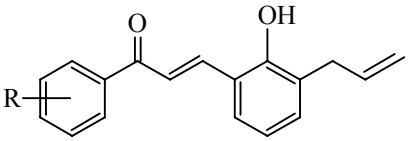
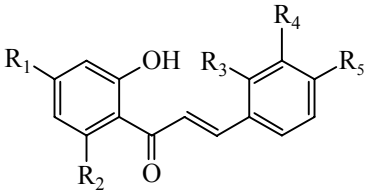
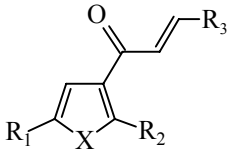
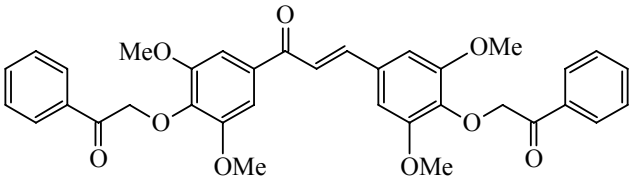
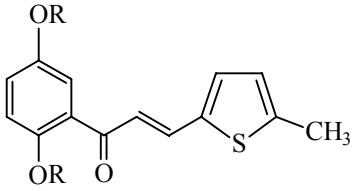
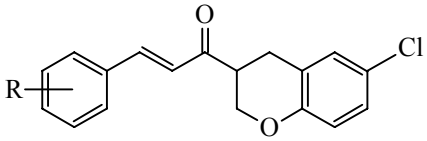
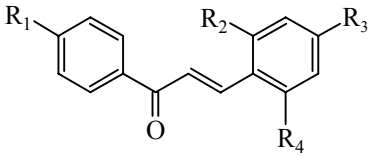
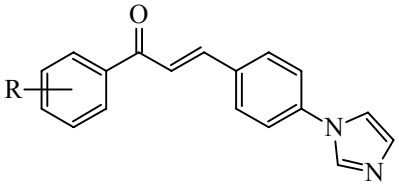
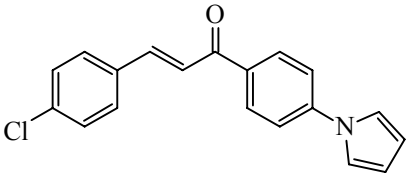
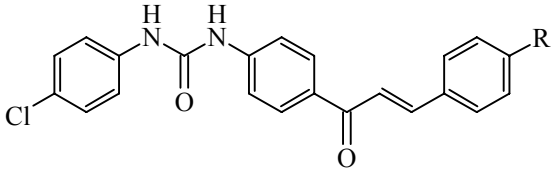
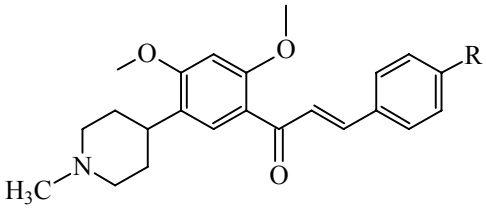
S. No.	Author	Structure	Pharmacological activity
2	K. R. Yerra *et al.*		Antitumor activity[2]
3	Echeverria *et al*		Antitumor activity[3]
4	S. Anindra *et al.*		Anticancer activity[4]
5	Tribhuvan Singh *et al.*		Anti-inflammatory activity[5]
6	Y. Rajendra Prasad *et al.*		Anti-inflammatory and antimicrobial activity[6]
7	Jae-Ho Jeon *et al.*		Anti-inflammatory activity[7]
8	A. Foroumadi *et al.*		Antileishmanial activity[8]

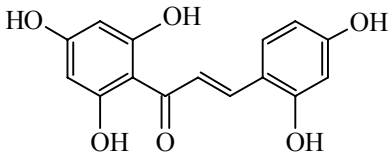
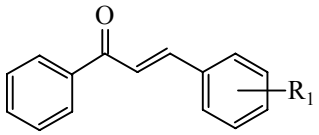
Cont…

S. No.	Author	Structure	Pharmacological activity
9	M. M. H. Bhuiyan *et al.*		Antimicrobial activity[9]
10	S. I. Habib *et al.*		Antimicrobial activity[10]
11	Thanh-Dao Tran *et al.*		Antimicrobial activity[11]
12	M. A. Kadhim *et al.*		Antimicrobial activity[12]
13	T. N. Doan *et al.*		Antioxidant and antimicrobial activity[13]
14	D. Anastasia *et al.*		Antioxidant activity[14]
15	C. Govindaraju *et al.*		Antiviral activity[15]
16	E. Seguin *et al.*		Cytotoxic and inhibition of tubulin polymerization[16]

Cont…

S. No.	Author	Structure	Pharmacological activity
17	C. Jen-Hao *et al.*		Cytotoxic, anti-inflammatory, and anti-oxidant activity[17]
18	N. Zohreh *et al.*		Antileishmanial activity[18]
19	M. A. Julio *et al.*		Antiparasitic activity[19]
20	H. Tanvir *et al.*		Antifungal activity[20]
21	B. Amit *et al.*		Antimalarial activity[21]
22	D. S. Lorena *et al.*		Anti-nociceptive activity[22]
23	L. Xiaoling *et al.*		Antiproliferative activity[23]

Cont…

S. No.	Author	Structure	Pharmacological activity
24	J. Nishida *et al.*		Tyrosinase inhibitor[24]
25	N. Raghav *et al.*		Effect on bovine Serum albumin[25]

CONCLUSION

In conclusion, we have described the biological applications of 1,3-diaryl α,β-unsaturated derivatives. From the review of the various results shown by active compounds, we can find out that 1,3-diaryl α,β-unsaturated derivatives showed a promising results in most of the pharmacological activity.

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