

Calendula***Apium graveolens* L.*****officinalis* L.**² /

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² /

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-

1

.A

B

21

Minimal Inhibitory

. I.R U.V

9

B A

(MIC) Concentration

26.55

A

36.33

B

Isolation and identification two active componenets from *Calendula officinalis* L and *Apium graveolens* L. and tested their activity against some of human pathogenic fungi

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Abstract

Two active components , one from hot alcoholic extract of *Calendula officinalis* flower called (A) component , the others component isolated from hot alcoholic extract seeds of *Apium graveolense* (named B component) isolated and identified. The component A were separated by acetic acid while B separated by column and thin layer chromatography. (21) chemical test , UV and IR spectral analysis techniques were used for components identification . Minimal inhibitory concentration of A and B components against 9 fungal isolates , were determined. The A component shows better inhibition activity which showed average of MIC 26.55 comparing with B component 36.33. The laboratory mice were used to test the acute short toxicity of the two components showed no toxicity .

Superficial mycosis

Superficial candidiasis

Midgley) Onychomycosis

Malassezia ↓

.(1997

)

(1987

(1984

)

Materials and Methods -2

. (1995) Guarro Hoogde

-1

BSRA

-2

20

(2004) Souri

Thumbles

. 24 %95 400 Soxhelet extractor

Whatman-No-1-(England)

. ° 4

A -3

(2001 David 1989)

(A)

(1) *Calendula officinalis*

Whatman-No-15 England

(Butanol :Acetic acid:Water)

(7.5:2.5:1.5) (B:A:W)

A
° 4

B -4

(T.L.C) -
(B)

Apium graveolens

.(1984 Harborn) .(4:1:7) (Butanol:Acetic acid:Water)

-

(2×40)

mesh) Silica gel G60 3
35 (28) (270-120
(1) (4:1:7) (B:A:W) Eluent
(2)

/ 0.2

(1)

.(2001 David) (Rf)

-5

, , , , , , , ,
, , , , , , , ,
- , , , , , , , ,
(366 nm) u.v , ,

Criddle ;1984 ;,Harborn ;1973 Evans Trease)
. (2001 Adedayo ;1998,Richard ;1994 Ellis

		B A	-6
	:-	Melting point	-
Gallenkamp		B A	
	B A	thermal point apparatus	
		Jenway 3320 pH Meter , Jenway comp.Germany	
) . Solubility test		Ignition	
			.(1983
		Infrared spectra	-
FTIR-84005 Fourier Transform Infra			
KBr)		Red Spectrophotometer,Shimadzu,Japan	
	¹⁻	(500-4000)	(discs
		Electronic spectra	-
		Heliosαv4.60U.V-visibleSpectrophotometer,England.	
(600-200)			- -
.		1	
	B	A	
. (1997 Schwedt) .	25-5 /	0.005	
			- 7
/ 500			
:-	B	A	

(Oxoid) -1
 10-7 ° 27

/ ⁶10× 6 3 0.2 -2
 2 1

Spreader

(Cork borer) 6 5 -3
 100 -4

5-2 10-7 ° 27 -5

(2002 Hammer 1996 Collee)

Minimum

-: B A (MIC) Inhibition Concentration
 95 / 100 / 200 / 300 / 400 / 500
 / 70 / 75 / 80 / 85 / 90 /
 40 / 45 / 50 / 55 / 60 / 65
 / 15 / 20 / 25 / 30 / 35 /
 / 5 / 6 / 7 / 8 / 9 / 10
 / 1 / 2 / 3 / 4

Acute (short-term) toxicity () -8

()albino mice (15)
 (3) (5±25)

acclimatization

(LD50) Median Leathal Dose

Stomach tube %30

(C) Control Oral administration
 / 16 B A
 48
 . (1980 Doull Klaassen)

Statistical Analysis -9
) T-test
 .(2000

A (%80) **B A**
 A A
 (%50) B
B A -3
 B A
 (2)

. B A

(2)

B	A		
			1
		I2	2
			3
0.98	0.982	Rf	4
			5
-	-		
-	-		
-	-		
-	-		
-	-		
-	-		
			6
-	-		
-	-		
			7
-	-	%1	
-	-		
			8
-	-		
-	-		
			9
+	+		

	+	+		
	+	+		
				10
	+	+	%1	
	+	+	%1	
	-	-	%1	11
				12
	+	+		
	+	+	%1	
	+	+	%4	13
	-	-	- - %0.5	14
				15
	+	+		
	+	+) (
	+	+		16
				17
	+	+		
	+	+		
	+	+		
				18
	196-194 dec.	109-107		
	6.7	2.85		

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: (+) ❖

: (-) ❖

B A (2)

) (O-H)

.(1972 Gayon

. (1994 Ellis Criddle)

B A

-4

(4 3)

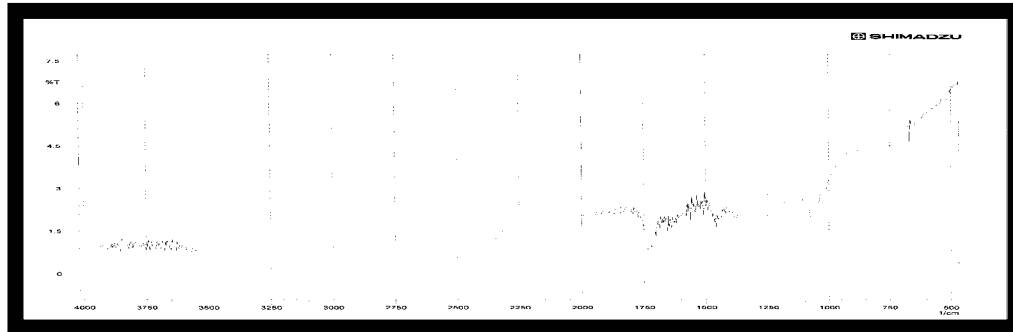
B A

(4,3)

Silverstein) $\pi-\pi^*$

(6,5)

(1991



A

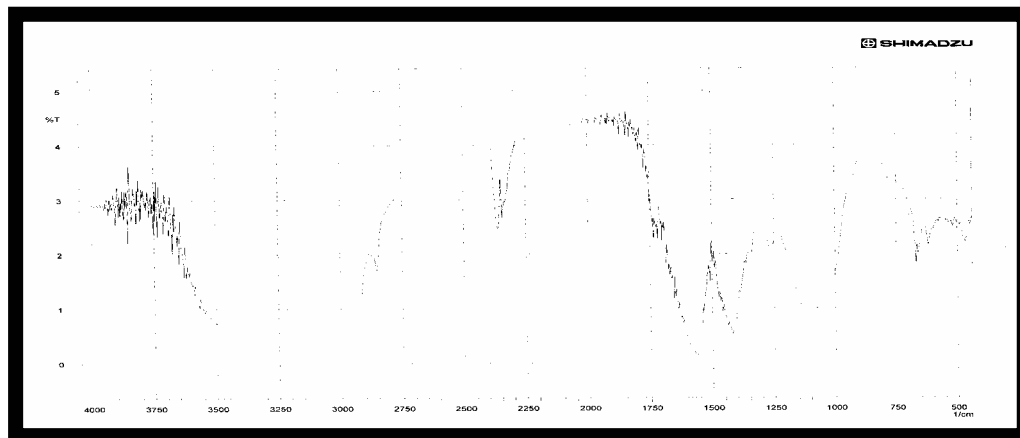
(3)

(

) A

(3)

Bond Causing Absorption	Spectral Region Wave number, $\bar{\nu}$(cm⁻¹)	Band Shap
O-H Str. Vib.	3500 – 3056	Broad Weak
Aliphatic C-H Str. Vib.	2910 & 2854	Weak
C=O & C=C Str. Vib.	1729	Medium
Aliphatic C-H bend.	1450 – 1379	Weak
C=S Str. Vib.	1293	Weak
C-O Str. Vib.	1160 & 1118	Weak
C=C-H bend.& O-H bend.	1069	Weak



B (4)

()B (4)

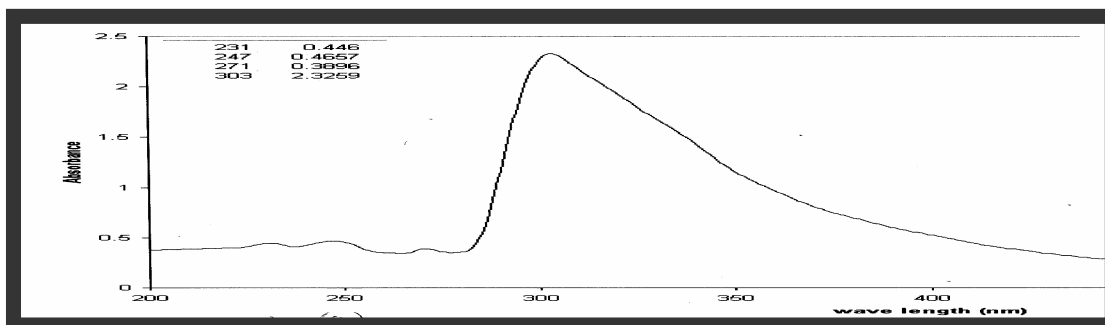
Bond Causing Absorptoin	Spectral Region Wave number, $\bar{\nu}$ (cm^{-1})	Band Shap
O-H Str. Vib.	3577- 3049	Broad Strong
C-H Str. Vib. Of C=C-H	3021	Very Weak
Aliphatic C-H Str. Vib.	2958 , 2924 & 283	Medium
C=C Str. Vib.	1407	Strong
C=S & C-N Str. Vib.	1264	Weak
C=C-H bend.& O-H bend.	1114	Strong
C-O Str. Vib.	1057	Strong

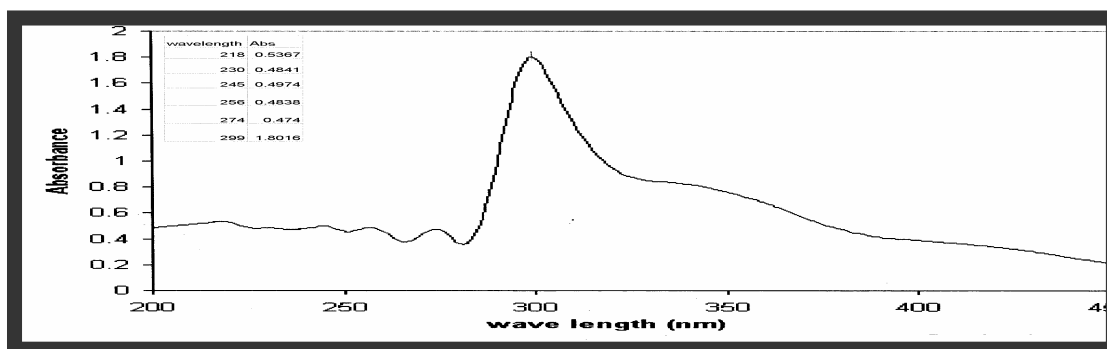
B A
(6,5) $\pi-\pi^*$

$n-\pi^*$

(1998 Webster Silverstein)

$\pi-\pi^*$





A (5)

B (6)

B A -6

9 / 500 B A

(P<0.05)

.(5) , B A

/ 500 B A 9 (5)

()				
	B	A		
3.5	2	5	<i>Aspergillus flavus</i>	1
5	3	7	<i>A. terreus</i>	2
28	20	36	<i>Candida albicans</i>	3
14.5	8	21	<i>Chrysosporium tropicum</i>	4
16	10	22	<i>Geotrichum candidum</i>	5
17.5	14	21	<i>G. capitatum</i>	6
14.5	4	25	<i>Microsporium gypseum</i>	7
24	15	33	<i>Rhodotorula rubra</i>	8

12	5	19	<i>Trichophyton rubrum</i>	9
	9	21		

❖

P<0.05 ❖

B A (2)

B A

(2001)

(O-H) B A

Tylor (2)

(1999) Cowan (1996)

(1993)

(H₂S)

9 B A

-7

9 B A

(6)

/			
B	A		
85	75	<i>Aspergillus flavus</i>	1
80	70	<i>A. terreus</i>	2
8	1	<i>Candida albicans</i>	3
35	25	<i>Chrysosporium tropicum</i>	4
10	7	<i>Geotrichum candidum</i>	5
10	8	<i>G. capitatum</i>	6
50	30	<i>Microsporum gypseum</i>	7
9	3	<i>Rhodotorula rubra</i>	8
40	20	<i>Trichophyton rubrum</i>	9
36.33	26.55		

B A (6)

(P<0.05)

(1976 Ian Ian)

() -8
B A
B A

(1987) ■
.7-4 .

(1983) ■

(1984) ■

(2000) ■

(1993) ■

520 .

(1989) ■

395

(2001)

65 .

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