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Synthesis of new Schiff bases derivative of benzoin compounds

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***Abstract*---**In this In this research study a different chain of schiff bases starting benzoin 4,4-dimethyl benzoin/4,4-dichloro benzoin/ 4,4-dibromo benzoin/4-chloro-4-dimethylamino benzoin/4-methyl benzoin with 1)Alanine yield series of new schiff bases, the structure of the compound was determined on the bases of their FT-IR,1HNMR and C.H.N. the pureness of the created compounds were tested via the antibacterial action were estimated by paper disc dispersal technique.

***Keywords*---**Schiff bases, benzoin, alanine, biological activity.

Introduction

Schiff bases are described by the (C=N) (ktimine) cluster which is key for elucidating the appliance of transamination besides racemization responses in organic systems (1,2). the response is conventional and taking in height incomes. In over-all ketones respond more little by little than aldehydes and upper hotness and lengthier response times are frequently requisite (3,4,5).Schiff bases actual main in preparation fresh centers, these compound existing abundant diversity of organic action reaching from Antifungal and bacteriocidal.

Materials and Methods

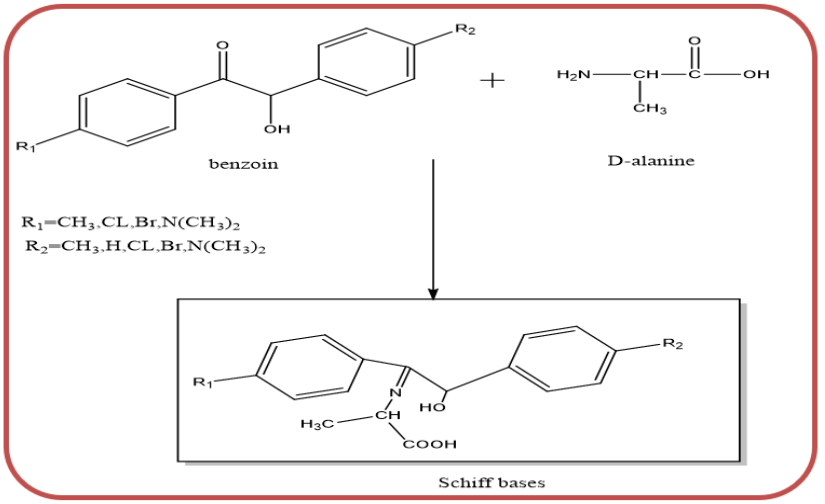
Melting points of the created compounds were resolute via exposed tube and are uncorrected the pureness of the compound was tested via get into TLC plates via (benzene: methanol (8:2) solvent scheme the advanced chromatographic plates were pictured below UV. IR scales were noted via KBr on FTIR. C.H.N analyzer and H-NMR spectra (300 MHz) & so tasters at Al Albeit university.

Synthesis of benzoin

In absolute ethanol (30ml)dissolved (0.01) mole p-methyl benzaldehyde) the reaction mixture was refluxed on water bath when hot mixture added (0.066 mole) KCN in (20 ml) water and refluxed 3 hours.Then it is left to cool 24 hours.The basic produce was cleaned by recrystallization of ethanol.

Creation of new Schiff bases

in 50 ml of absolute ethanol mix Benzoin derivatives (0.02 mole) with duobs & glacial acetic acid were stirred for (15 min), then (0.02 mole) alanine was additional and moved for (4h) The hard made was clarified and recrystallized from ethanol .



Synthesis of Schiff bases

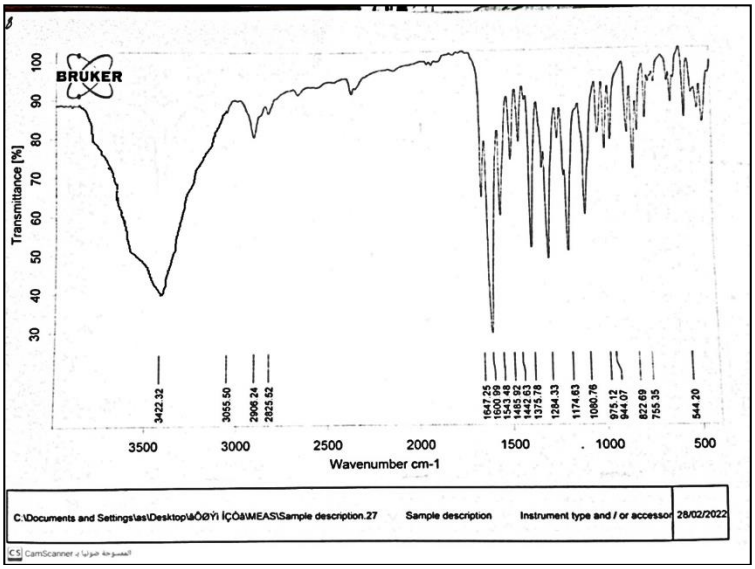
Results and Discussions

The preparation of compounds Schiff bases can be make clear by the next suggested mechanical The recently prepared Schift bases described by spectral (U.V,IR,)(C.H. N) and H NMR. The physical description and spectral information are existing in tables 1,2,3. Spectra presented vanishing of (NH2) and vanishing of (C=O) absorption band in benzoin. absorption band in the other new derivative at (1550-1590) cm to (C=N) group. Schiff bases were verified beside for each of apositive and negative grm the outcomes of antibacterial being there in table 4.

Table (1)
Physical data of the new Schiff bases

Com.	formula	Color.	Yield %,	(calc-). found%
1	$C_{20}H_{23}N2O_{33}$	Brown	70	C H N

				70.77	6.83	8.25
				70.71	6.77	8.18
2	$C_{19}H_{21}NO_3$	Orange	60	73.29	6.80	4.50
				73.22	6.73	4.43
3	$C_{17}H_{15}Cl_2NO_3$	Yellow	69	57.97	4.29	3.98
				57.91	4.23	3.91
4	$C_{19}H_{21}ClN2O_3$	White	68	63.24	5.87	7.76
				63.17	5.80	7.69
5	$C_{18}H_{19}NO_3$	White	55	72.71	6.44	4.71
				72.64	6.38	4.64



Figure(1) FT-IR for compound 1

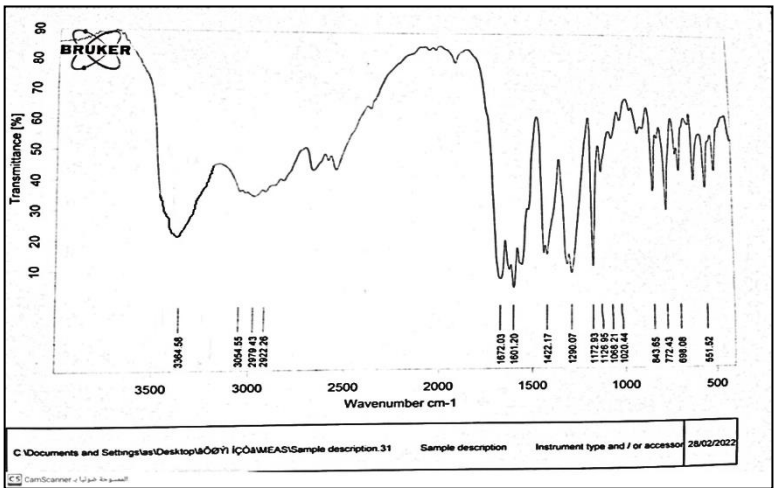
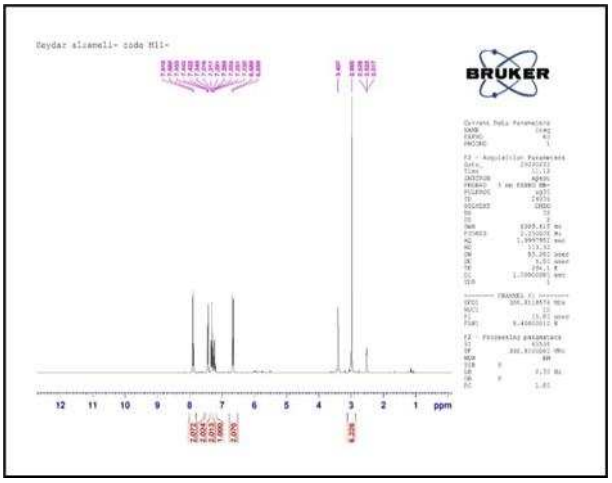


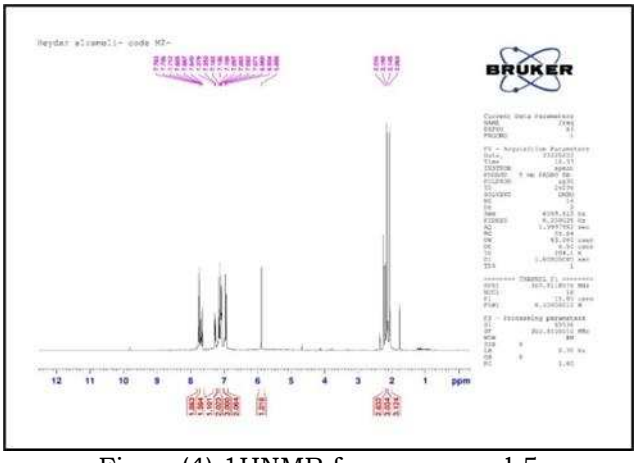
Figure (2) FT-IR for.compound 5

Table.(2)
FT-IR Data of Schiff base

COM.	Other cm-1 v	C=C	C=N	OH
1	C-N(CH_3)2(1265)	1600	1630	3270-3500
2	.....	1590	1620	3270-3500
3	C-CL(733)	1595	1610	3270-3500
4	.....	1578	1646	3270-3500
5	.....	1600	1672	3270-3500



Figure(3) 1HNMR for.compound 1



Figure(4) 1HNMR for.compound 5

Table,(3)
Data ,for new schiff bases

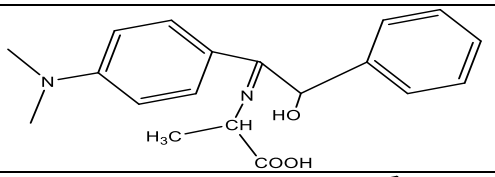
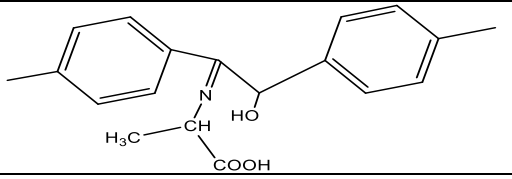
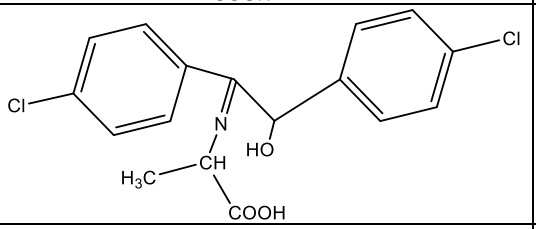
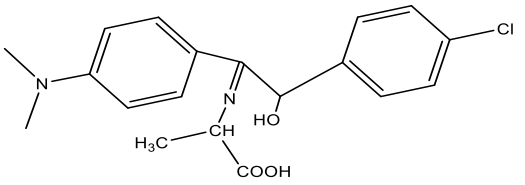
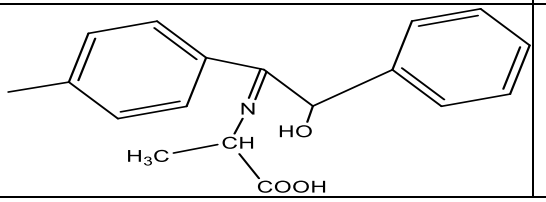
Com.	.Structure.	Chemical.shift
1		(Ph)6.2-7.5 ppm (ph-N)3.5 ppm (OH) 9.3 ppm (COOH)0.2 ppm
2		(CH)1.3-1.4 ppm (Ph)6.2-7.5 ppm (OH) 9.2 ppm (COOH)0.2 ppm
3		(Ph)6.2-7.5 ppm (OH) 9.2 ppm (COOH)0.2 ppm (C-CL)7.3-8.78 ppm
4		(Ph)6.2-7.5 ppm (OH) 9.3ppm (COOH)0.2 ppm (C-CL)7.3-8.78 ppm (ph-N)3.4 ppm
5		(CH)1.3-1.4 ppm (Ph)6.2-7.5 ppm (OH) 9.1ppm (COOH)0.2 ppm

Table (4)
Biological.activity

Bacteria(gram) / Comp.	positive S-aureus	negative E-coli
1	4 mm	7 mm
2	7 mm	8 mm
3	6 mm	7 mm
4	9 mm	10 mm
5	12 mm	10 mm

Conclusion

The effect of prepared compounds on two types of gram-negative and gram-positive bacteria has been studied and these species have been tested in view of their importance in the medical field because they cause many and varied diseases as well as differ in their resistance to antibiotics. These bacteria were isolated from clinical cases after confirming their diagnosis based on biochemical characteristics.

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