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Synthesis caracterizcation of some Schiff bases derived from vanillin containing 1,3,4-thiadiazole moiety

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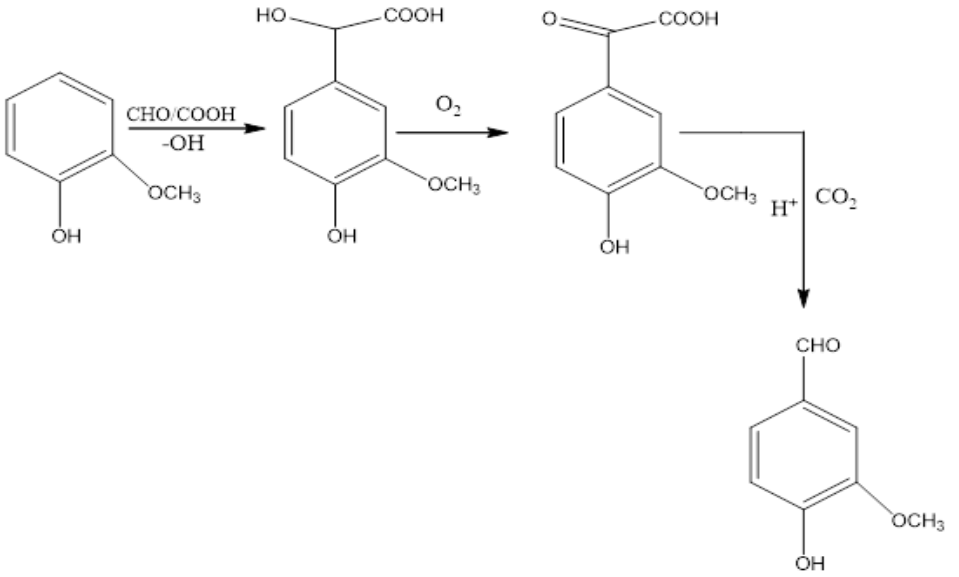
***Abstract*---**The aim of this paper, thy schiff bases 1, 3, 4- Thaidiazol organic Compounds with high pharm. acological efficacy, wich play akay important vole in the tratment of urinary track infections, as anti-inflammatory, antimicrobial, anti-bacterial, analgesic, pain relief treatment of diabetics, attiveral, and anti-concer in this research, Vanillen has been used as abioimportant precursor. the Vanillen together, thiosimicarbizid is reated in the Presonce of ethanol to yield the substituted thiesimicarbazid compounds which are used in the preparation of several heterogeneous ving compounds include substituents (1,3,4-thiad; Zol-2-yl) thiesimcarbazide reacts with Sodium acetate in the presence of a lithium steak and the substituted thiosimi carbazide Compounds are also Irapped 4 (5-amino-1; 3; 4-thiadizol-2-yl) 2-methox phenol substituted by its reaction with phosphors Penta Sulfide- the vehicles prepared were diagnosed by the physical and spectral by IR methods of the nuclear magnetic resonance spectrum (H-NMR)

***Keywords*---**hyterocyclic, thadia Zole, thio semi carbaza.

Introduction

Vanillen is an organic compound ($C_8H_8O_3$) with a fromula and functional groups of dehyde ether phenol is major component of Vanilla grain extract that Crystallizes into white pins, it is found in the pods of the Vanilla plant and is used as an atternative to Vanilla Plant and is used as an alternative to Vanilla material from Vanilla (3-hydroxy -4-methoxy-ban zaldehyde) and has other names, Vanilla dehyde and it is found in Voasted Coffee and Chinesered Pine, Sometimes Vanilla is used as a synthetic, instead of natural Vanilla extract, as aflavoring agent in Food, beverages and pharmaceuticals, with a distinctive oder and sweet taste, and Vanilla is used as an analytical reagent and intermediate in the Synthesis of preparation Such as methyl dopa antiky pertensive, in addition

to sickle cell anaemia, it is an anti Fungal and is used to cover the odour of certain combinations such as Caffeine and Polythazide diuretics and antihypertensive tablest it is native to mexice, but now grows. in the tropics, Madagas car is now the largest Producer of vanillan (B-D-gly coside), has no taste odor after harvest(1), Adistin cive Flavor develops after the processing process. and lasts a whole moth, But-in general, it is as follows:



Vanilla is used in skin care products such as skin, Skin and lip moisturizers an acne-a cne therapy Vanilla ahelps to purge the skin and reduce the appearance of pengetbaskip and food blisters Vanilla also Containse a good source of Vitamin (B6) an vitamin (Bl2) and pan the nic acid it also helps to slow the onstet of signs of aging such as wrings and is used in Comsmetics for Fragrance(2). Also to treat burns and wounds, Vanilla extract, which is focused directly on open. burns and wounds, should not be applied to hair when blending Vanilla with other ingredients such as almond oil and castor oil and applying for 15 minutes to hair that makes it soft, single and Shining, Cough, nausea, and depressio depression(3)

Experimental

The melting pont of the prepared vehicles and all of my company's materials was measured (Fluka) and (BDH), the infrared spectrum of some models Was measured using (Frans form FTIR -84005) and the (H-NMR) has been measured for a number of the prepared using (HNVMR), Bruker Analyische messte chink GmbH j400 MHZ). and the remote has been use chem Bio 3D ultrall the digital scale, a sublimatory a heater, and a hydrant were, to pull out gases and Vapors .

Synthesis of 4- substituted 2-(4-hydroxy-3 methoxy benzylidene) thiosemicarbazide)

ThiosemiCarbuzd (o.1 mi) and Crystalline & Sodium acetete (0.03 M) were taken RB Flask, (8-10M1) water an (0.3gm) of aldehyde was added. Slowly continuous stirring added The mixture, was turbid so added methanal abs. until clear. Solution obtained shake Mixture For few minutes and allowed to stand - thiosemicarbazone precipited from the Cold Sulution-filler off the precipitate and recrystallize with ethandiabs[4]. other compounds were prepared Similary and their character, action date are recorder in Table (1)

Table(1) Some physical constant for thosemicar bacide Compounds (E_1, E_2)

Comp.No	R	Molecular Formale	M.P (℃)	Yield (%)	Color
E_1	Ph	$C_{12}H_{12}N_5O_4S$	148	83	White
E_2	$CH_2CH{=}CH_2$	$C_{17}H_{18}N_5O_2S$	195	82	White

Synthesis of 4-(5-amino-1,3, 4-thiadiazol -2-yl) 2-methoxy Phenol)

Thios micarbazone (0.1M) and acetate Sodium(0.03m) were dissolved in (20-30ml) of glacial acetic acid taken inevound-bottom Flask aquipped with a separating funnel for the addition of bromide. Bromine (0.6ml in 4ml glacial acid) was added slowly to it, white stirring magnetically After half an hour Stirring, the solution was Poured on crushed ice, the resulting Solid was separated, dried recrystallized from[5-6]. Ethanol .abs, other compounds were prepared Similary and their characterization date are recorded in Table(2)

Table(2) Some Physical Constant for Compounds (E_3, E_4)

Comp.No	R	Molecular Formale	M.P (℃)	Yield (%)	Color
E_3	$CH_2{=}CH{-}CH_2$	$C_{12}H_{13}N_5O_2S$	148	54	Dark yellow
E_4	Ph	$C_{17}H_{19}N_5O_2S$	195	82	White green

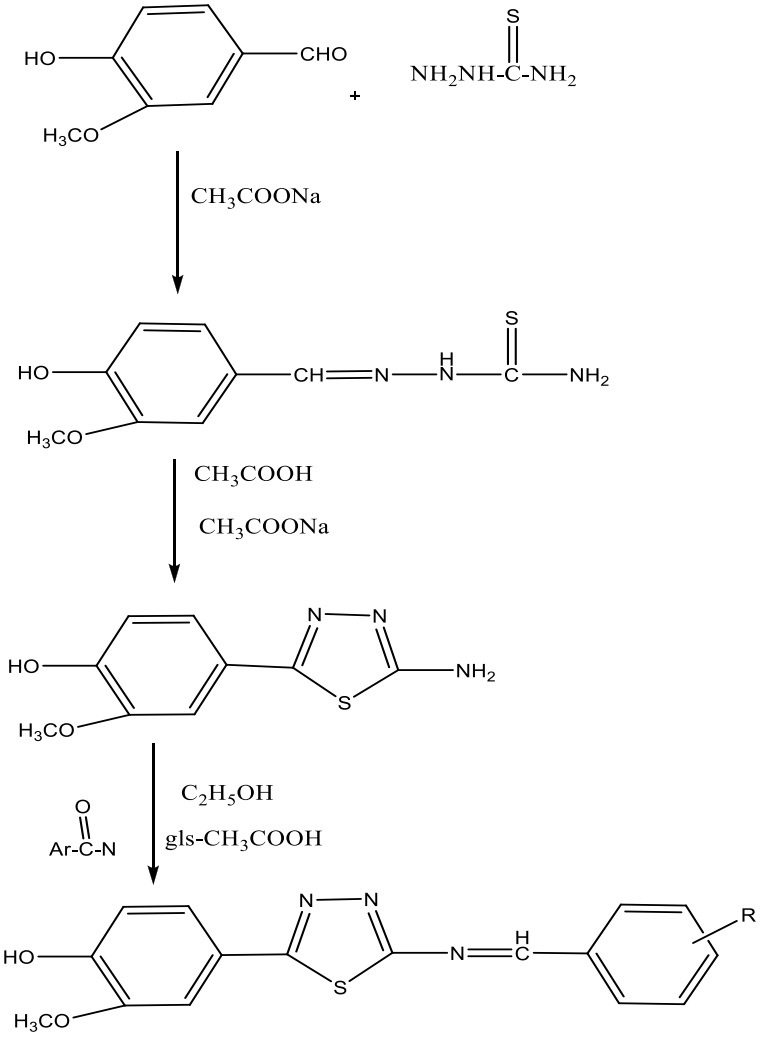
Synthesis of Sheff bass 2-methoxy-4-(5-(4- methyl benzylidene amino) - 1,3,4-thiadiazol-2-yl) phenol)

Asolution of (0.IM) was prepared in 15ml Alcohol. bottom Flask Required aldehyde, (0.lm) dissolved in (I0M1) alcohol, was then added to it. the mixture was reflaxed for (6-7hr). the volume of alcohol, for wase reduced to half by distillation under reduced Pressare the resulting solution was poured on Crushedice the precipitate which get separated was dried and recrystallized From ethanolabs[6-7], Other Compouds were prepared similary and their characterizationdate are recorde in Table (3)

Table (3) Some physical Constant for compounds (E_5, E_6)

Comp.No	R	Molecular Formale	Yield (%)	M.P (℃)	Color
E_5	Ph	$C_{17}H_{19}NOSCL$	75	175	White
E_6	Ph	$C_{17}H_{19}N_5O_2S$	195	82	White green

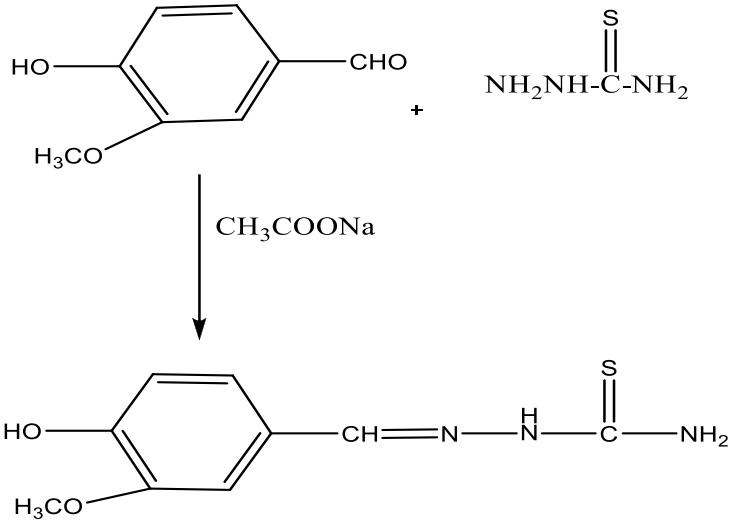
Result and Discussion



Marly studies have shown that heterogeneous ving compounds are important in medicine as therapeutic sachst Substances, industrial dyes, and antibiotics and in Stimulants of in agriculture as triggers and growth

Synthesis of thiosemicarbazone (e_1)[8-9] .

ThioSimCarba Zid compounds are important becers because the Can be converted to this diazol derivatives when reacted with different reagent derived from the reaction of vanillin in the presence of ethanol abs. as shown by the Allowing equation:-



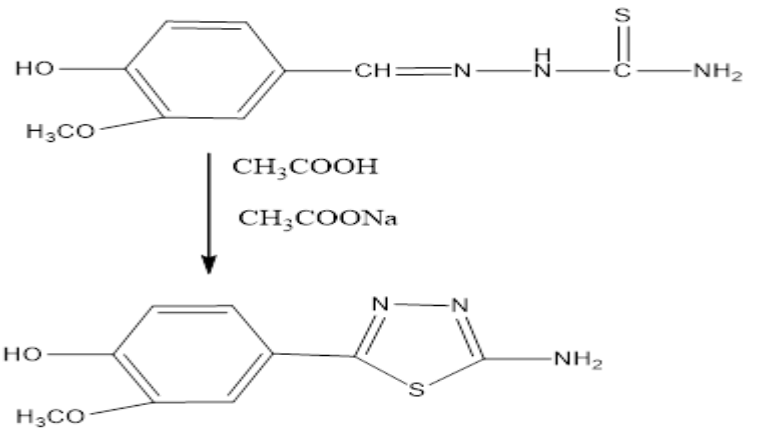
The frared spectros Copy if the spectrum shows Frequency bands at as as have strong (C-H) due to the Frequency (3290), at the frequency. (C-C) the at bond (1157cm^{-1}), at the Frequency (C=N)," (1249cm^{-1}), (C=S), (3070cm^{-1}) (N-H), HNMR ($CDCl_3$) (6-7.8) (4H, Ar-H), 3.8 (t, 3H of OCH_3), 5.8 (S, 1H, of OH),8.2 (t, 3H of CH_3), (2.0) (t, 2H, NH_2)[10-12].

Table (4) spectval date forsyn thesies compounds(e1-e2)

Comp.No	R	N-H	C-H	C-C	C=N	C=S
e_1	Ph	3090	3290	1157	1391	1249
e_2	$Ch_2CH=CH_2$	3217	3100	1147	1595	1266

Synthesis of 4-(5-amino-1,3,4-thiadiazol-2y) 2-methoxy Phenol

Rection thios micarbazone with sodium acetate in ethanol-abs:-



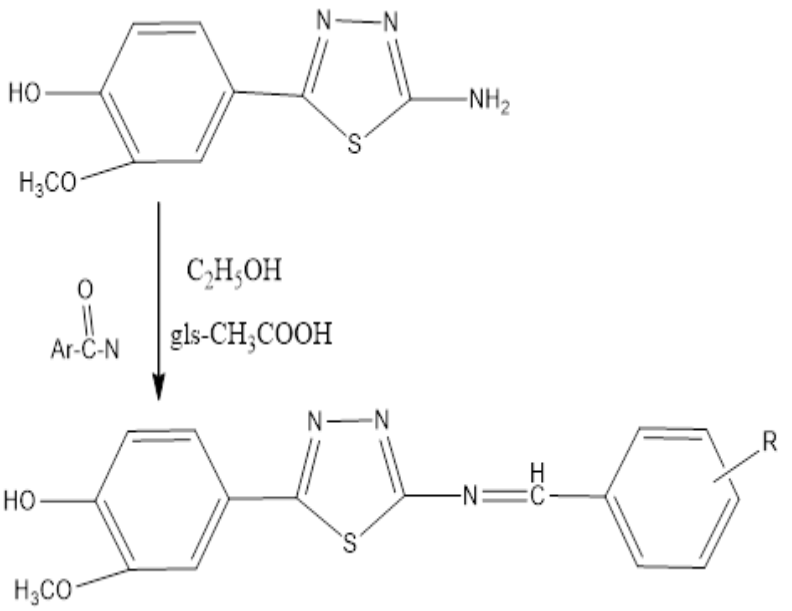
The Frared spectral Copy the (IR) (3385cm^{-1}) (C-H); (1157cm^{-1}) (C-C), (1691cm^{-1}) (C=N), (1567cm^{-1}) (N=C),(949cm^{-1}) (C-S), (3120cm^{-1}) (OH), (1096cm^{-1}) (C-O), (1674cm^{-1}) (C=N), IHNMR ($CDCL_3$), 8 (6.7), (H, Ar-H), 8.8-7. 3 (M, 4H,C_6H_5CH=N) 8.4 (S, 1H, OH), 8.8 (t, 3H, C_6 H_5 CHC =N), 3.3(t, 3 H, OCH_3)

Table (5) synthesis of 4-(5-amino-1,3,4-thiadiazol-2y) 2-methoxy Phenol

Comp.No	R	O-H	C-H	C-C	C=N	N=C	C=S
e_3	Ph	3385	3387	1157	1691	1674	949
e_4	Ch_2-CH=CH_2	3290	3290	1246	1646	1670	930

Synthesis of Schiff bases of 2-methoxy -4 (5-(4- methoxy-4 (5-(4-methyl benzylidene eamino) - 1, 3,4 thiadiazol-2-yl) phenol

The reaction Alcohol, Required and aldehyde and then added to it th Mixture:-



The newly Synthesis Compound of Schiff bases were characterized by Using IR and HNMR spectroscopy, the Compounds showed Peaks at (3290-3271)(N-H) stretching (2935-2932 cm^{-1}) (C-H) Stretching (1170-1157) (C=N) stretching, (1631-1624), C=S Stretching / (1249-1216)cm^{-1} the NMR Spectrum of the Compound Showed, (6-7) (M,4H, Ar-H), (6-8-7.4) (M), ($C_6H_5CH=N$),(5-0 S,1H,OH) S8(S,H,C_6 H_5 CH=N)[13].

Table (6) indicated the presence of aromatic proton

Comp.No	R	N-H	C-H	C-C	C=N	C=S
e_5	Ph	3290	2935	1170	1691	1249
e_6	Ch_2-CH=CH_2	3271	2932	1147	1624	1216

Conclusion

Atatal 6 compounds were synthesis with good gields All synthesis Compounds is exhibited analgesic anti-inflammatory and Antibacterial activity,
The Compound (e_1,e_2,e_3,e_4,e_5,e_6) were shown significant analgesic activity against swiss albino. Vats were compounds

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