A Synthesis of Thiopyran Pyridinium Perchlorate Compounds

Article · October 2018

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Synthesis compounds of Thiopyran Pyridinium Perchlorate and studing its Bioactivity: Part1.

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Abstract: A synthesis Four Pyridinium perchlorate Compounds from reaction one mole pyrylium salt (product already) with one mole 2-Aminoethylenethiol in room temp. and diagnosing them by Spectrally (FTI.R., 1H.N.M.R.) in addition to the accurate quantitative elemental analysis.

A synthesis sixteen Thiopyranpyridiniumperchlorate Compounds from reaction one mole from Pyridinium compounds Produced with one mole pyrylium salt (product already) in under zero temp. very good yields and diagnosing them by pectrally (FTI.R., 1H.N.M.R.) in addition to the accurate quantitative elemental analysis. A should Molecular Weight for Synthesis compounds By using down Freeze Degree apparition Molecular Weight for Synthesis compounds compared to Molecular Weight cast. Studying the antimicrobial activity of the synthesized compound was tested against Gram positive and Gram negative bacteria and some fungi and have high good effect upon some becteria and fungi. This method provides several advantages such as very good yield, simple work-up procedure and environment friendly and compounds it more important in the field of medicinal and synthesis it.

Keywords: Synthesis , Thiopyran Pyridinium Perchlorate , Bioactivity.

Introduction

Pyrylium compounds are compound of a 6-member Hetrocyclic ring with a six-p -electron system. The hetro atom is an sp2-hybridised trivalent oxygen in the form of an oxonium ion. The Pyrylium cation can be combined with nucleophilic anion trihalides (except the fluoride ion) and with most Complex anions of low polarisability and weak nucleophilic properties, Chloroferrate (1), Chloroalumnate (2), Fluoroborate (3)…. Etc. However, stable crystalline forms of the Pyrylium compounds are obtained as prechlorate(3) (4).

The Pyrylium cation reaction with primary (mono amine compounds)(5,6) and (Di amino compounds)(8) Product Pyrydinium and Bis-Pyrydinium diagnosing them Spectrally FTI.R., U.V. and N.M.R. in addition to the accurate quantitative elemental analysis (5,6,7,8)

The Pyrylium cation reaction with aqueous solution of sodium sulphide in acidic medium, product six thiopyrylium perchlorate(5,8) . Synthesis 1,2,4,6- tetra phenyl thiopyran benzene from reaction 2,4,6-Tri phenyl thiopyrylium with PhLi.(9). Synthesis them , palladium complex is obtained from the reaction of Pd(PPh3)4 and [ArCNSSN]• (Ar = 4-pyridyl).(10). The cyclotrithiazyl cation, [S2N3]+ dithiadiazolium mono- and di-cations, respectively. In contrast to the latter reaction, the combination of PhHgCN with [S2N]+ produces the cationic sulfur-nitrogen chain [PhS4N3Ph]+.(11,12) A mixed 1,3,2,4-/1,2,3,5-dithiadiazolium dication is produced by reaction of [4-CNC6H4CNSSN]AsF6 with [S2N]AsF(13,14).

EXPERIMENTAL

Used Pyrylium compounds were prepared according to procedure described by AL-Heety(6,7), give Physical and experimental properties of their diagnosing them Spectrally (FTI.R., U.V. and 1H.N.M.R.) in addition to the accurate quantitative.

Instrumention:

Used Shimadzu. FTI.R. fourietransform Infrared Spectrophotometer- (8300), By using KBr disc., C.H.N.: Element Analysis, (Elmer 240 B-perken) and 1H.N.M.R. Spectrophotometer Bruker Ac-200 MH2 By using DMSO-d6 solvent. Univ. Mutaa, College of Scince Dept. of Chemistry Jordan.

Preparation Pyridinium Compound:

Add gradually (0.0088mol (3.6g)) of (2,4,6-Tri-phanyl Pyrylium prechlorate) Dissolved in (30 ml of Ethanol 95%) to (2-Aminoethylenethiol) (0.0088mol (0.68g))

Dissolved in (10 ml of Ethanol 95%) with constant shaking (using Magnetic steerer)at room temperature also show Dissolved color red and heating Dissolved was stirred at refluxing for two hours. The end of shaking and heating after reaction completion hidden color red of Dissolved. Cede of Dissolved and Cooling it at room temperature, precipitated of 1-(2-Mercapto-ethyl)-2,4,6-triphenyl-pyridinium; perchlorate (A) (add Diethyiether to Dissolved and precipitated other Pyridinium Compound) solid was filtered off and washed with (10 ml water) and the crude products were got recrystallization by ethanol 95%. The gross weight (2.9 g) per. (80.6%) with a melting point (251-252 C0). Was diagnosing them Spectrally (FTFTI.R., 1HNMR.) (Table (4),(5)) in addition to the accurate quantitative elemental analysis. (See Table(1)),

In the same way been preparing Eight Compounds . (See. Table (1)) ,

Thiopyran Pyridinium compound:

Add gradually (0.0053mol (2.5g)) of (4,6-Diphanyl-2-(3.4-dimethoxyphanyl) Pyridinium prechlorate) Dissolved in (20 ml of Ethanol 95%) to (0.0053mol(2.34g)) [1-(2-Mercapto-ethyl)-2,4,6-triphenyl-pyridinium; perchlorate(A)] Dissolved in (20 ml of Acetone) with constant shaking (using Magnetic steerer) at zero temperature also add complete and Dissolved color light Brown ran high Cases, abiding shaking hidden color of Dissolved at half hour (the all reaction under Hood) Cede of Dissolved at room temperature and Cede of Dissolved and Cooling it at zero temperature tem (12 hours) , precipitated {1-{2-[4-(3,4-Dimethoxy-phenyl)-2,6-diphenyl-1λ4-thiopyran-1-yl]-ethyl}-2,4,6-triphenyl-pyridinium; perchlorate (add Diethyiether to Dissolved and precipitated other them Compound) solid was filtered off and washed with (10 ml Ethanol 95%) and the crude products were got recrystallization by Acetic acid. The gross weight (2.2 g) per. (88%) with a melting point (266-267C0). Was diagnosing them Spectrally (FTI.R., 1HNMR.) (Table (6),(7)) in addition to the accurate quantitative elemental analysis. (See Table(2)),

In the same way been preparing Thirty two of compounds . (See. Table (2)(9)).

Should Molecular Weight for Synthesis compounds By using down Freeze Degree

A weighted (10 ml) from solvent Nitrobenzene in tube to supply with thermometer extent degree (-5) to put the tube and annexes in ice bath, register time and heat also stop temperature, to take out the tube and annexes at room temperature also coming back to liquid, add (0.05 g) from the synthesis compounds with constant shaking also Dissolved it, and to put the tube and annexes in ice bath, register time and heat also stop temperature. A register (Tf) from equation flowing and yield Molecular Weight from them. (See Table(3)),

$$Tf = KF.\frac{Wt.solu.}{M.Wt.solu.} X \frac{1000}{Wt.solvent}$$

Δ Tf = T2 – T1

Results and Discussion

A Synthesis it used two steps , as follows:

preparing Pyridinium Compound:

Got reaction one mol of Pyrylium prechlorate with one mol of the Compounds content primary Amine and Sulfide, to give a Pyridinium prechlorate interview and yield very good the appearance of (N=C) absorption band at (1629- 1683) cm-1 , the appearance of (C-N) absorption band at (1305-1379) cm-1 , the disappearance of both (NH2) absorption band at (3400,3200) cm-1 and (-S=C) absorption band at (1523-1580) cm-1 in their FTI.R. spectra, the appearance of (S-H) absorption band at (7.33-7.30) S in their 1H.N.M.R. spectra .(see tables (4)(5) and Fig.(1),(2),(7),(8)), also explained mechanism and formula the following (Scheme (1)).

Preparation of Thiopyran Pyridinium compound:

Got reaction one mol of Pyrylium prechlorate with one mol of the Pyridinium prechlorate, to give a Thiopyran Pyridinium silt. interview and yield very good , the appearance of (N=C) absorption band at (1673, 1524) cm-1 , the appearance of (C-N) absorption band at (1393-1345) cm-1 , the appearance of (S=C) absorption band at (1522-1588) cm-1 the disappearance of (S-C) absorption band at (1245-1295) cm-1 in their FTI.R. spectra, the disappearance of (S-H) absorption band at (7.33-7.30) S in their 1HNMR. spectra (see table (6)(7)(9)) and Fig, (3-6),(9-14)), also explained mechanism and formula the following (Scheme (2)).

Antibacterial and antifungal activity

All the compounds (1-16) from the series were screened for their antibacterial ctivityagainst B. subtilis, S. aureus, P. aeruginosa and E. coli. The standard drug used was Furacin and DMF was kept as solvent control. Similarly the antifungal studies ere carried out against fungus C. albicans and C. krusei, using Flucanzol as standard. Compounds 2,3,4,5,11,13,15, and 16 showed significant antibacterial activity. Compound 1,6,9,10,12, and 14 showed significant antifungal activity. Activities of compounds (1-16) are given in (see table(8))

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Table (1) Characterization data for the synthesized of Pyridinium compounds

No.	Formula (M.Wt)	M.P. C^0	Yield %	Analysis Clcd (found)					
				C%	H%	N%	S%	Cl%	Br%
A	$C_{25}H_{26}O_6NSCl$ (527.79)	251-252	80.6	61.44 61.28	4.93 4.77	2.65 2.49	6.07 5.83	6.72 6.33	-----
B	$C_{25}H_{20}O_4NSCl_2Br$ (580.83)	233-234	80.6	51.65 51.24	3.44 3.35	2.41 2.33	5.52 5.37	12.20 11.95	13.76 13.55
C	$C_{25}H_{22}O_4NSCl$ (467.52)	260-261	86	64.17 64.10	4.71 4.53	3.00 2.86	6.86 6.76	7.58 7.41	-----
D	$C_{25}H_{21}O_6N_2SCl$ (512.53)	236-237	87	58.53 58.37	4.10 3.93	5.47 5.32	6.26 5.97	6.92 6.73	-----

Table (2) Characterization data for the synthesized of Thiopyran Pyridinium compounds

Co. No.	Pyridinium No.	Formula (M.Wt)	M.P. C^0	Yield %	Analysis Clcd /found					
					C%	H%	N%	S%	Cl%	Br%
1	A	$C_{50}H_{42}O_6NSCl$ (820.02)	266-267	88	73.23 73.15	5.12 4.97	1.71 1.58	3.91 3.88	4.32 4.21	----
2	A	$C_{48}H_{36}O_4NSCl_2Br$ (873.35)	275-276	78.6	66.01 65.98	4.12 4.05	1.60 1.52	3.67 3.57	8.12 8.05	9.15 9.07
3	A	$C_{48}H_{38}O_4NSCl$ (760.00)	251-252	92	75.85 75.78	5.00 4.85	1.84 1.74	4.22 4.08	4.66 4.54	----
4	A	$C_{48}H_{37}O_6N_2SCl$ (805.01)	238-239	87.3	71.61 71.58	4.60 4.57	3.48 3.39	3.98 3.86	4.40 4.34	----
5	B	$C_{48}H_{34}O_4NSCl_3Br_2$ (986.70)	240-241	80.7	58.43 58.35	3.45 3.37	1.42 1.32	3.25 3.12	10.78 10.61	16.20 15.98
6	B	$C_{50}H_{40}O_6NSCl_2Br$ (933.37)	272-273	77.9	64.34 64.28	4.29 4.11	1.50 1.46	3.43 3.38	7.60 7.52	8.56 8.47
7	B	$C_{48}H_{35}O_6N_2SCl_2Br$ (918.36)	258-259	81	62.77 62.65	3.81 3.75	3.05 2.96	3.49 3.41	7.72 7.64	8.70 8.64
8	B	$C_{48}H_{37}O_4NSCl_2Br$ (874.35)	230-231	89	65.93 65.87	4.23 4.14	1.60 1.54	3.67 3.59	8.11 8.01	9.14 8.99
9	C	$C_{48}H_{43}O_6NSCl$ (797.00)	281-282	82.1	72.33 72.30	5.40 5.34	1.76 1.69	4.02 3.94	4.45 4.37	----
10	C	$C_{48}H_{41}O_6NSCl_2Br$ (910.35)	295-296	85.4	63.33 63.28	4.50 4.43	1.54 1.48	3.52 3.44	7.79 7.72	8.78 8.73
11	C	$C_{50}H_{47}O_8NSCl$ (857.02)	247-248	80	70.07 69.99	5.48 5.42	1.63 1.57	3.74 3.67	4.14 4.09	----
12	C	$C_{48}H_{42}.O_8N_2SCl$ (842.01)	297-298	84	68.46 68.35	4.99 4.76	3.33 3.24	3.81 3.75	4.21 4.12	----
13	D	$C_{48}H_{36}O_8N_3SCl$ (850.02)	278-279	81.7	67.82 67.74	4.24 4.13	4.94 4.82	3.77 3.68	4.17 4.07	----
14	D	$C_{48}H_{38}O_6N_2SCl$ (806.01)	253-254	80	71.52 71.46	4.71 4.67	3.48 3.31	3.98 3.82	4.40 4.38	----
15	D	$C_{50}H_{42}O_8N_2SCl$ (866.03)	267-268	86.4	69.34 69.28	4.85 4.80	3.24 3.15	3.70 3.66	4.09 3.96	----
16	D	$C_{48}H_{35}O_6N_2SCl_2Br$ (918.36)	244-245	88.5	62.77 62.71	3.81 3.69	3.05 2.91	3.49 3.37	7.72 7.67	8.70 8.68

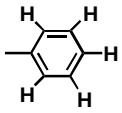
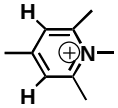
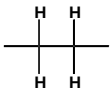
Table (3) M.Wt. the found and calculated for al Synthesis Thiopyran Pyridinium compounds

Co. No.	M.Wt Clcd.	M.Wt found	Co. No.	M.Wt Clcd	M.Wt found
1	(820.02)	798	9	(797.00)	754.54
2	(873.35)	810	10	(910.35)	894.50
3	(760.00)	756.77	11	(857.02)	838.64
4	(805.01)	742.14	12	(842.01)	831.71
5	(986.70)	977.52	13	(850.02)	811
6	(933.37)	910	14	(806.01)	811
7	(918.36)	867.05	15	(866.03)	828
8	(874.35)	850	16	(918.36)	88.6

Table (4) FTIR. Spectra of Pyridinium compounds

No.	C-N	C=N	C-H phenyl	ClO_4^-	C=C	C-H pyridinium	S-C	Other	
								group	cm^{-1}
A	1305.7	1629.7	648, 617.2	1022.2	1404.1, 1448.4	875.6	1240.1	OCH_3	1274.9
B	1372	1676.5	690, 688	1082	1476.1, 1406	859.9	1277.1	Cl, Br	785.1 588
C	1356.1	1683.1	659.1, 608	1086.1	1462.1, 1405	896.1	1263	-------	------
D	1379.1	1677.3	639, 622	1086	1486.9, 1419	886.1	1295.5	NO_2	1368

Table (5) 1H.N.M.R. Spectra of Pyridinium compounds

No.Comp.			—SH		Other
A	(8.34),(7.71)M (7.74) M	(8.47) S	(7.30) S	(1.62) S	OCH_3 (3.89),(4.16)
B	(7.74),(7.66)M (7.49).(7.11)M	(8.36) S	(6.99) S	(1.59) S	----------

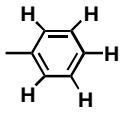
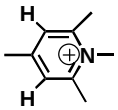
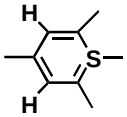
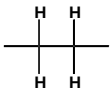
**** By using DMSO-d_6 solvent**

Table (6)FTIR. Spectra of Thiopyran Pyridinium compounds

No.	C-N	C=N	C=S	C-H Pyridinium	C-H Thiopyrinium	C-H Phenyl	ClO_4^-	C=C	Other	
									group	cm^{-1}
1	13500	1561.2 1627.8	1523.7	881.4	894.9	623 682 711	1085.6	1404 1496.9	OCH_3	1257.5
2	1386	1645 1578.1	1546.9	873	888.1	642 686.1 780.3	1083.1	1417 1493	Cl Br	798.3 598
3	1392.3	1583.2 1640	1542.1	885.1	897	617 645 710	1085.8	1442 1488.3	--------	-------
4	1356.1	1637.1 1569	1522.1	882.3	889.1	654 672 711.9	1089	1408.9 1477.6	NO_2	1369.1
5	1354	1524.3 1632	1526.9	889	897.2	663.1 677 690.8	1092.3	1434 1486.1	Cl Br	786 586.4
6	1393.6	1521 1612.9	1521.7	891.1	941.2	621 705.9 839	1095.5	1407 1461 1494	OCH_3 Cl Br	1263.3 767.6 586
7	1358	1543.1 1609.3	1527.1	898.2	899.7	634 687.2 695.3	1084.1	1467.6 1488	NO_2 Cl Br	1382 799.1 587.6
8	1383.2	1501.6 1646.9	1522.9	877.9	891	642.2 663 742	1097.5	1437 1492.1	Cl Br	786.6 593.1
9	1373.1	1639.1 1567	1588.1	882.9	984.1	627 677 689	1091.6	1423 1481	OCH_3	1275.4
10	1345.4	1627 1577.2	1591.2	881.4	950.8	624 684 711	1083.6	1406 1496 1591	OCH_3 Cl Br	1242.1 769.5 580.5
11	1349.9	1647.7 1562.6	1597	881.7	906.7	609 634 701.9	1085.3	1446 1489	OCH_3 Cl Br	1289.4 796.3 589
12	1381.1	1640.9 1567	1579.9	890.3	897.6	634 667 724	1089.1	1486 1573.1	OCH_3 Cl Br	1257 787.6 591.1
13	1386	1673.1 1506.1	1583.1	896.1	910	646.1 655 732	1087	1464.1 1489.6	NO_2	1384.3
14	1359	1609.8 1554.1	1584.1	889	899.7	640 672 693.9	1096.1	1433 1497	NO_2	1379.7
15	1367.4	1629.6 1573	1580.1	847.6	892.3	622 689 723	1088.6	1422 1465.8	OCH_3 NO_2	1237 1382.1
16	1352	1624 1568	1575.7	837	885.3	682.9 624.9	1085	1434.9 1475.4	Cl Br NO_2	771.5 570.9 1245.9

* using KBr disk

Table (7) 1H.N.M.R. Spectra of Thiopyran Pyridinium compounds

No.Comp.					Other
1	(7.90),(7.77)M (757)M	(8.06) S	(6.93) S	(1.63) S	OCH_3 (3.91),(3.66)
2	(8.08),(8.07)M (7.94),(7.81)M	(8.79) S	(7.28) S	(2.19) S	----------
4	(8.37),(7.77)M (7.75)M	(8.95) S	(7.28) S	(1.99) S	----------
6	(7.95),(7.48)M (7.46) M	(7.94) S	(7.06) S	(1.69) S	OCH_3 (2.29),(2.64)
7	(7.77),(7.37)M (7.45),(7.28)M	(7.19) S	(7.05) S	(2.32) S	----------
9	(7.74),(7.73)M (7.72)M	(8.04) S	(7.23) S	(1.90) S	OCH_3 (9.97),(3.72)

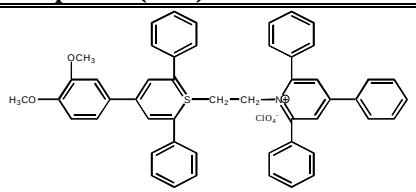
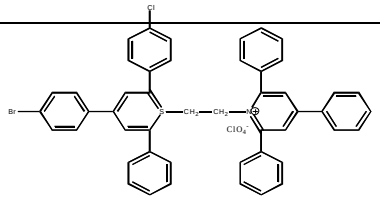
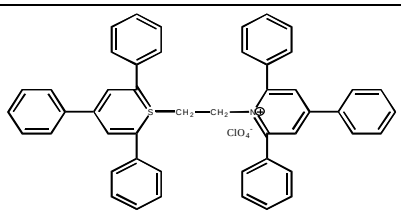
**** By using DMSO-d_6 solvent**

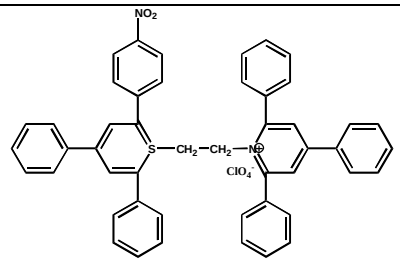
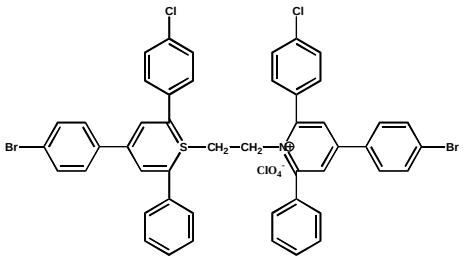
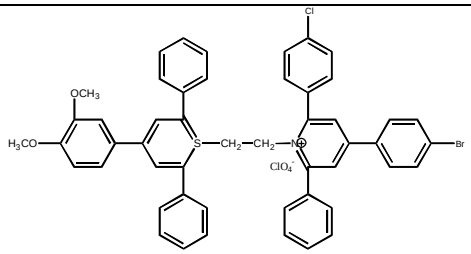
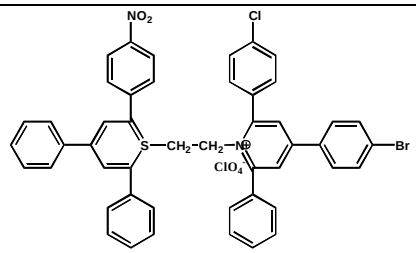
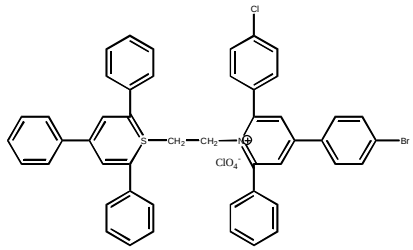
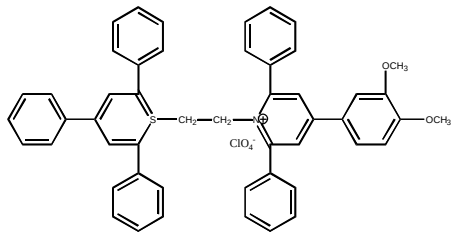
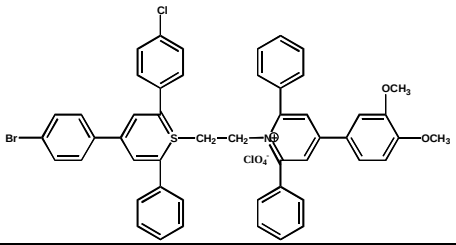
Table(8) In vitro Antibacterial and Antifungal Activity of compounds(1-16)

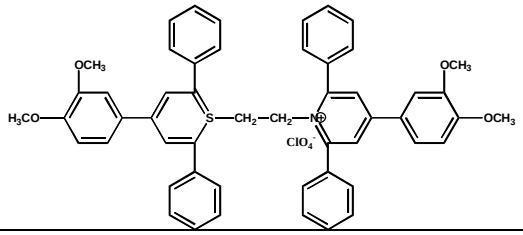
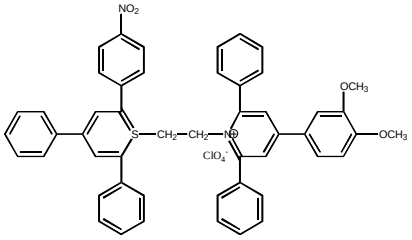
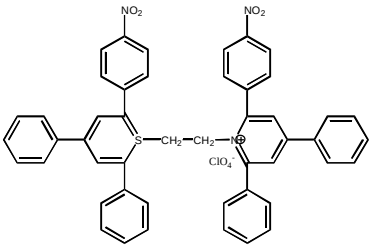
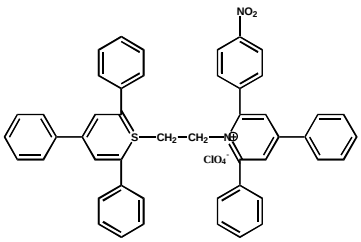
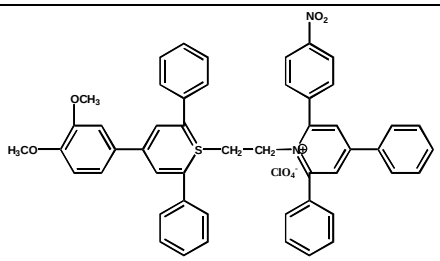
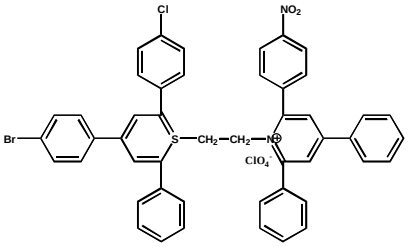
Compounds	Antibacterial in (µg/ml)				Antifungal in (µg/ml)	
	Gram Positive		Gram Negative		C.albicans	C.krusei
	S.a	B.s	E.c	P.a	ATCC10231	G03
1	15	25	0.4	10	10	26
2	02	---	32	10	---	15
3	02	16	30	12	---	15
4	30	28	09	---	05	0.8
5	18	34	33	26	12	04
6	07	18	22	---	---	21
7	10	18	---	---	10	06
8	10	---	0.8	---	25	---
9	---	08	11	19	23	10
10	---	12	04	11	23	15
11	13	30	26	0.9	05	0.9
12	17	19	11	18	30	---
13	0.5	22	31	18	04	16
14	---	14	04	---	---	22
15	22	16	15	20	11	12
16	16	---	12	30	10	10
Zone of inhibition of standard drugs (µg/ml)						
Furacin	40	45	40	50	----------	
Flucanzol	----------				40	35

S.a - S. aureus **B.s** - B.subtilis **E.c** - E.coli **P.a** - P.aeruginosa

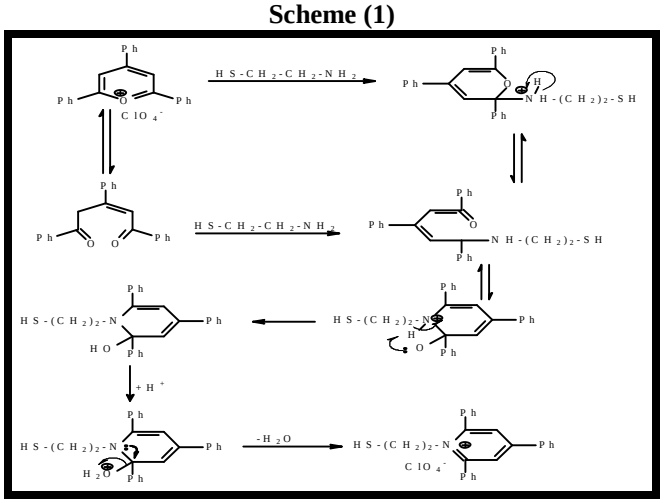
Table(9) Name and Structure of compounds(1-16)

1	1-{2-[4-(3,4-Dimethoxy-phenyl)-2,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-2,4,6-triphenyl-pyridinium ; perchlorate	
2	1-{2-[4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-6-phenyl-1λ^4-thiopyran-1-yl]-ethyl}-2,4,6-triphenyl-pyridinium; perchlorate	
3	2,4,6-Triphenyl-1-[2-(2,4,6-triphenyl-1λ^4-thiopyran-1-yl)-ethyl]-pyridinium; perchlorate	

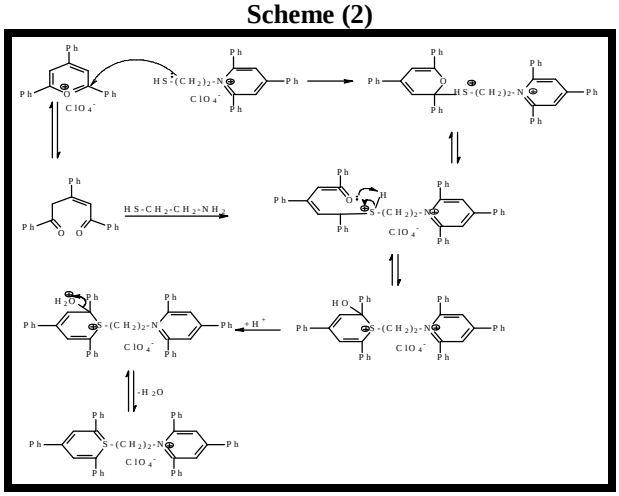
4	1-{2-[2-(4-Nitro-phenyl)-4,6-diphenyl-1λ4-thiopyran-1-yl]-ethyl}-2,4,6-triphenyl-pyridinium; perchlorate	
5	4-(4-Bromo-phenyl)-1-{2-[4-(4-bromo-phenyl)-2-(4-chloro-phenyl)-6-phenyl-1λ^4-thiopyran-1-yl]-ethy l}-2-(4-chloro-phenyl)-6-phenyl-pyridinium; perchlorate	
6	4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-1-{2-[4-(3,4-dimethoxy-phenyl)-2,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-6-phenyl-pyridinium; perchlorate	
7	4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-1-{2-[2-(4-nitro-phenyl)-4,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-6-phenyl-pyridinium; perchlorate	
8	4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-6-phenyl-1-[2-(2,4,6-triphenyl-1λ^4-thiopyran-1-yl)-ethyl]-pyridinium; perchlorate	
9	4-(3,4-Dimethoxy-phenyl)-2,6-diphenyl-1-[2-(2,4,6-triphenyl-1λ4-thiopyran-1-yl)-ethyl]-pyridinium ; perchlorate	
10	1-{2-[4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-6-phenyl-1λ4-thiopyran-1-yl]-ethyl}-4-(3,4-dimethoxy-phenyl)-2,6-diphenyl-pyridinium; perchlorate	

11	4-(3,4-Dimethoxy-phenyl)-1-{2-[4-(3,4-dimethoxy-phenyl)-2,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-2 ,6-diphenyl-pyridinium; perchlorate	
12	4-(3,4-Dimethoxy-phenyl)-1-{2-[2-(4-nitro-phenyl)-4,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-2,6-diphenyl-pyridinium; perchlorate	
13	2-(4-Nitro-phenyl)-1-{2-[2-(4-nitro-phenyl)-4,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-4,6-diphenyl- pyridinium; perchlorate	
14	2-(4-Nitro-phenyl)-4,6-diphenyl-1-[2-(2,4,6-triphenyl-1λ^4-thiopyran-1-yl)-ethyl]- pyridinium; perchlorate	
15	1-{2-[4-(3,4-Dimethoxy-phenyl)-2,6-diphenyl-1λ^4-thiopyran-1-yl]-ethyl}-2-(4-nitro-phenyl)-4,6-dip henyl-pyridinium; perchlorate	
16	1-{2-[4-(4-Bromo-phenyl)-2-(4-chloro-phenyl)-6-phenyl-1λ^4-thiopyran-1-yl]-ethyl}-2-(4-nitro-pheny l)-4,6-diphenyl-pyridinium; perchlorate	

Scheme (1)



Scheme (2)



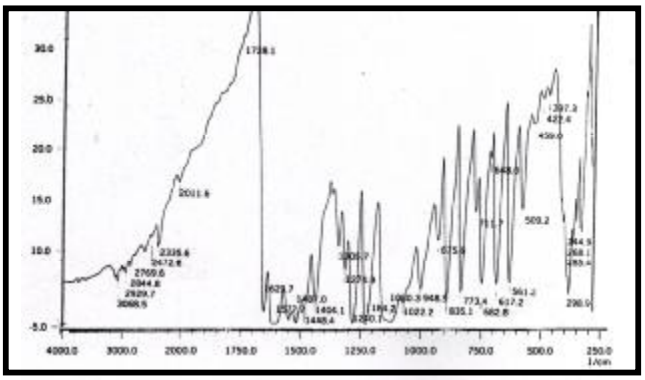


Fig. (1). Spectra. FTI.R for Comp.(A)

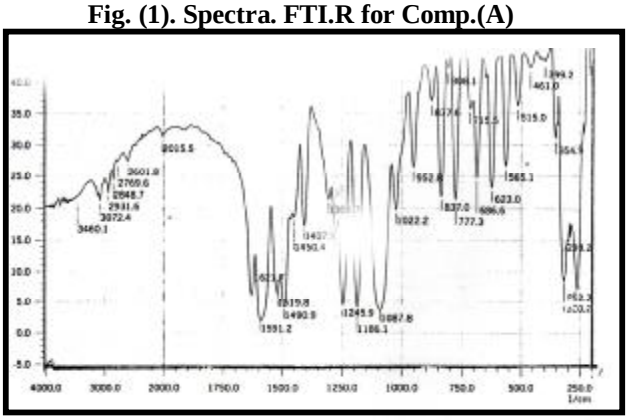


Fig. (2). Spectra. FTI.R for Comp.(B)

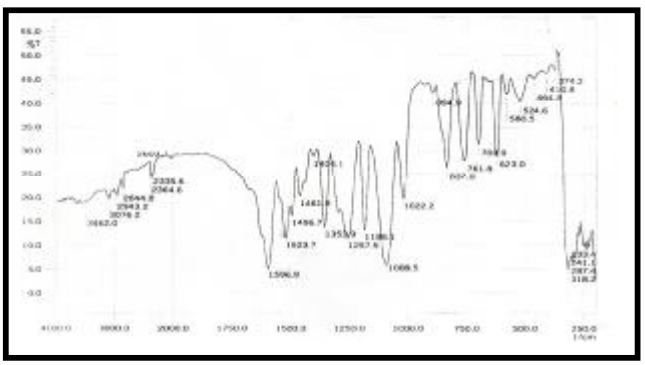


Fig. (3). Spectra. FTI.R for Comp.(3)

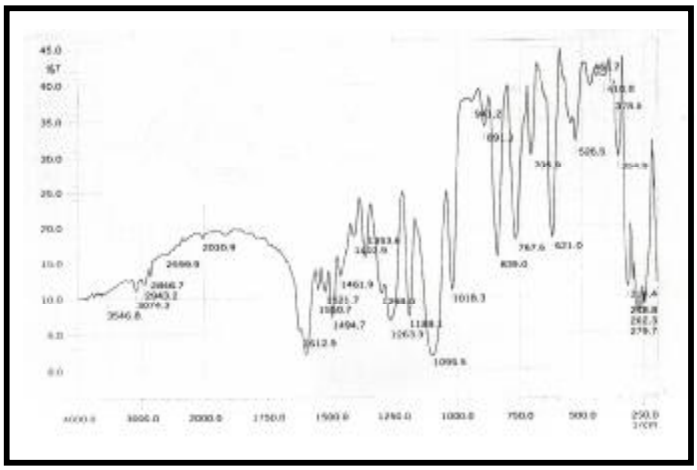


Fig. (4). Spectra. FTI.R for Comp.(6)

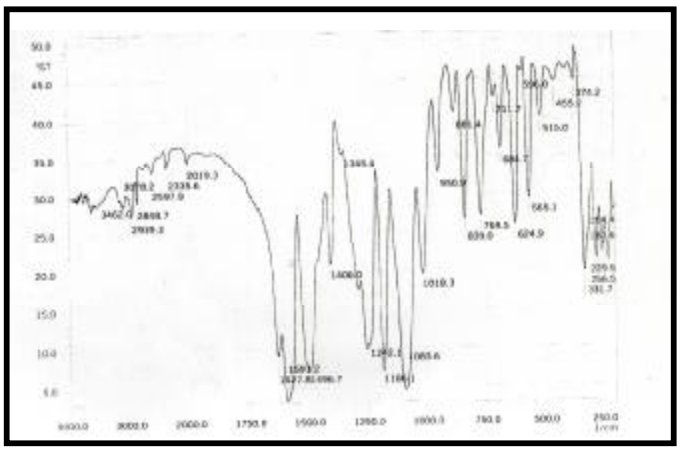


Fig. (5). Spectra. FTI.R for Comp.(10)

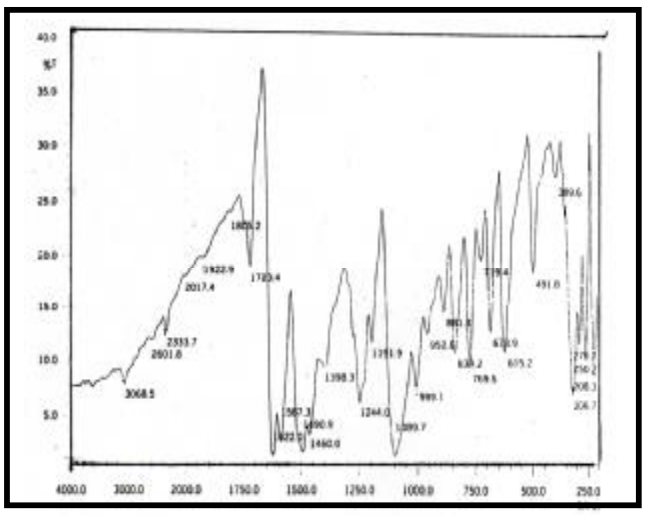


Fig. (6). Spectra. FTI.R for Comp.(16)

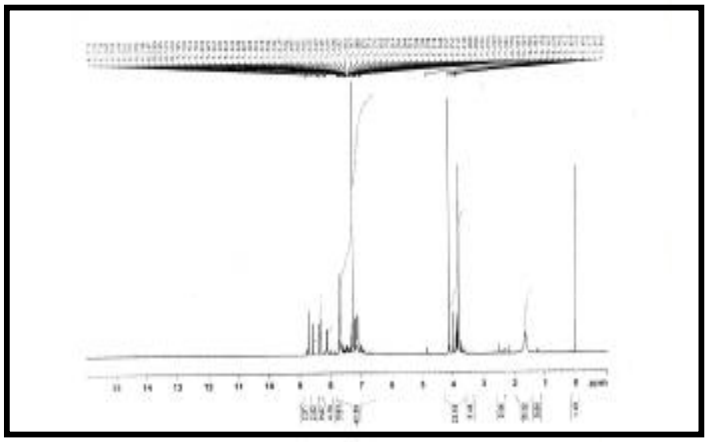


Fig. (7). Spectra. 1H.N.M.R for Comp.(A)

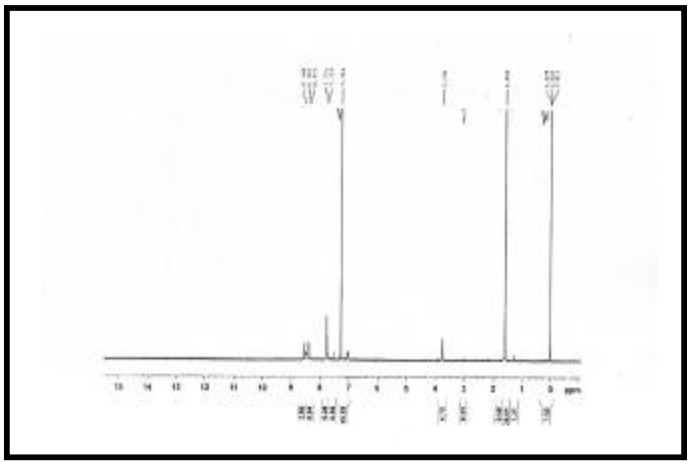


Fig. (8). Spectra.1H.N.M.R for Comp.(B)

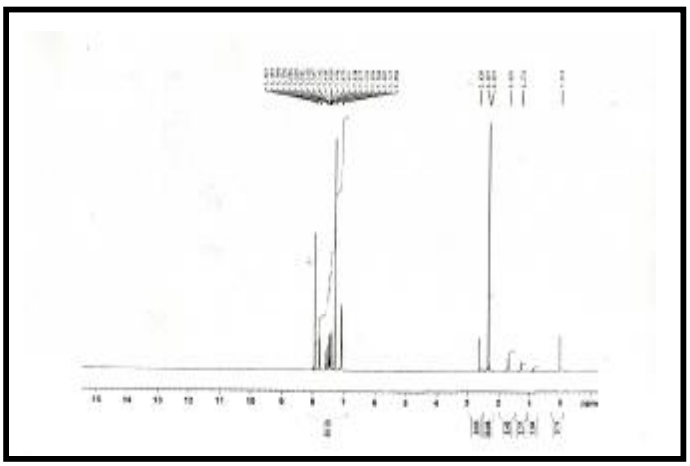


Fig. (9). Spectra. 1H.N.M.R for Comp.(1)

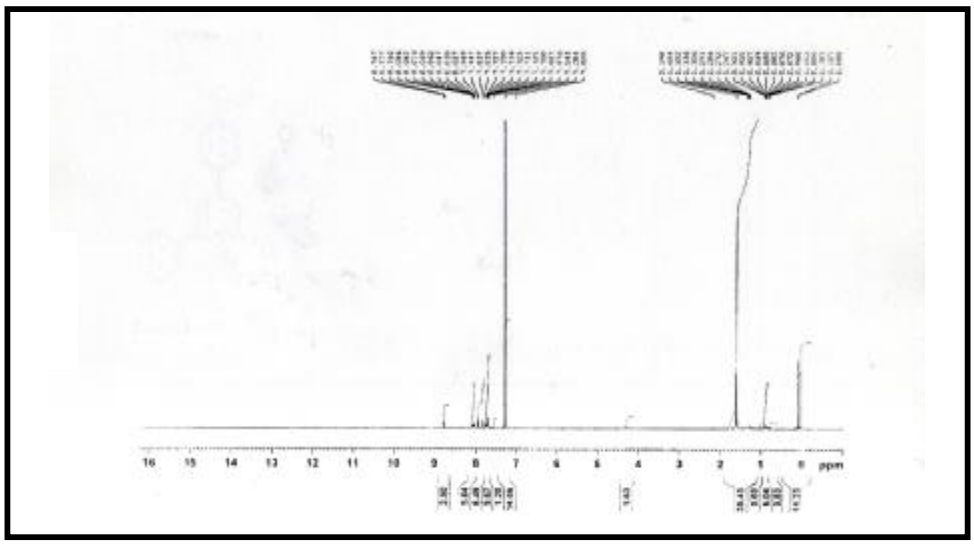


Fig. (10). Spectra. 1H.N.M.R for Comp.(2)

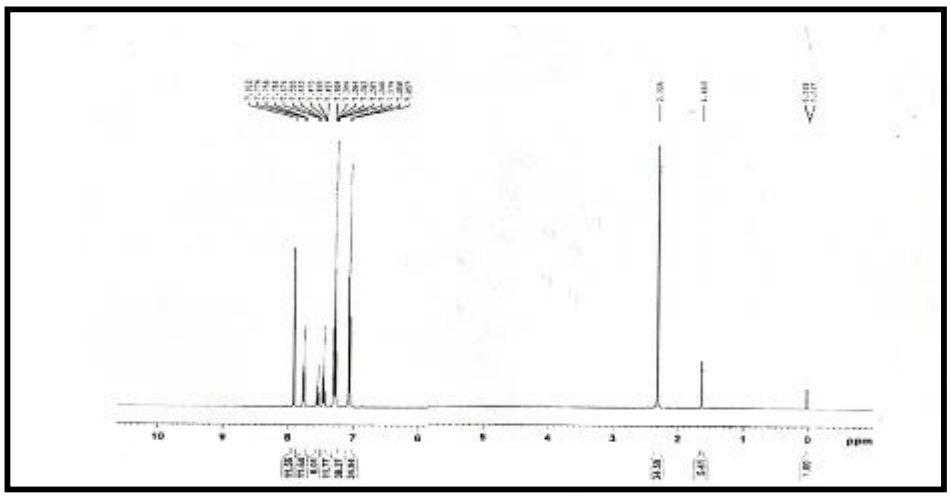


Fig. (11). Spectra. 1H.N.M.R for Comp.(4)

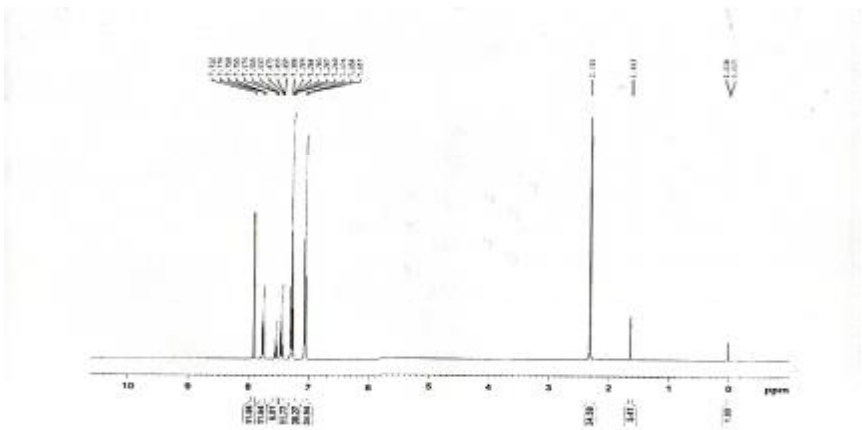


Fig. (12). Spectra. 1H.N.M.R for Comp.(6)

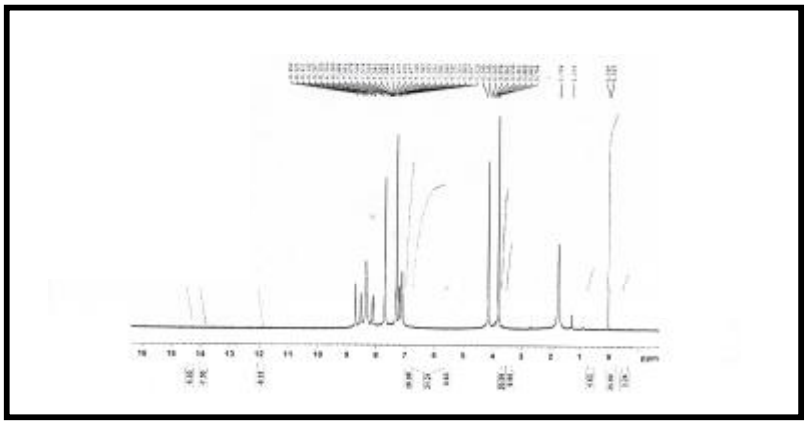


Fig. (13). Spectra. 1H.N.M.R for Comp.(7)

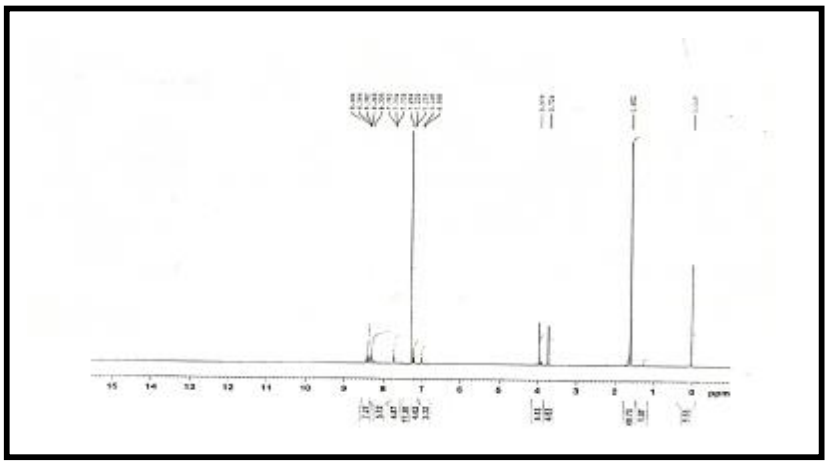


Fig. (14). Spectra. 1H.N.M.R for Comp.(9)

تحضير مركبات الثايوبارين بايريدينيوم بركلورات ودراسة فعاليتها الحيوية :الجزء الاول

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الخلاصة

تم تحضير اربع مركبات من مركبات البريدينيوم وذلك من خلال مفاعلة واحد مول من املاح البـــايريليوم (المحـــضرة مسبقا) مع مول واحد من الـــ(2-امينوثلين ثايول) في درجة حرارة الغرفة وتم تشخيصها طيفيا بوساطة طيف الـــ(الاشعة تحـــت الحمراء وطيف الرنين النووي المغناطيسي والتحليل الكمي للعناصر). ومن خلال مركبات البريدينيوم المحضرة تم مفاعلة واحد مول من مركبات البريدينيوم مع واحد مول من املاح البايريليوم (المحضرة مسبقا) في درجة حرارة اقل من (الصفر المئوي) ومن خلال هذه العملية تم الحصول على ستة عشر مركبا من مركبات الثايوبايرين بايريدينيوم بركلورات بمنتوج جيد جدا وتم تشخيصها طيفيا بوساطة طيف (الاشعة تحت الحمراء وطيف الرنين النووي المغناطيسي والتحليل الكمي للعناصر) . وتـــم تعـــين الـــوزن الجزيئي بطريقة الانخفاض بدرجة الانجماد واظهرت النتائج انها مقاربة الى وزنها الجزيئي وكذلك تمت دراسة التأثير البايولوجي للمركبات المحضرة تجاه بعض البكتريا موجبة لصبغة كرام وسالبة لصبغة كرام وكذلك تجاه بعض الفطريات وكانت النتيجة هنالك قيم للفعالية عالية للمركبات الناتجة. وبذلك تكون لهذه الطريقة طريقة عمل بسيطة وبظروف مناسبة ومنتوج جيد جدا وبذلك تكون لهذه المركبات اهمية كبيرة في حقل الكيمياء الطبية فظلا عن تحضيرها.