Supplementaryb Information file (S1)

Copper Borate (CuB_4O_7) catalyzed multi-component green synthesis of 2,4,5-triarylimidazole derivatives and evidence of *in-situ* conversion of Copper Borate (CuB_4O_7) into $Cu(OAc)_2$ inpresence of NH_4OAc.

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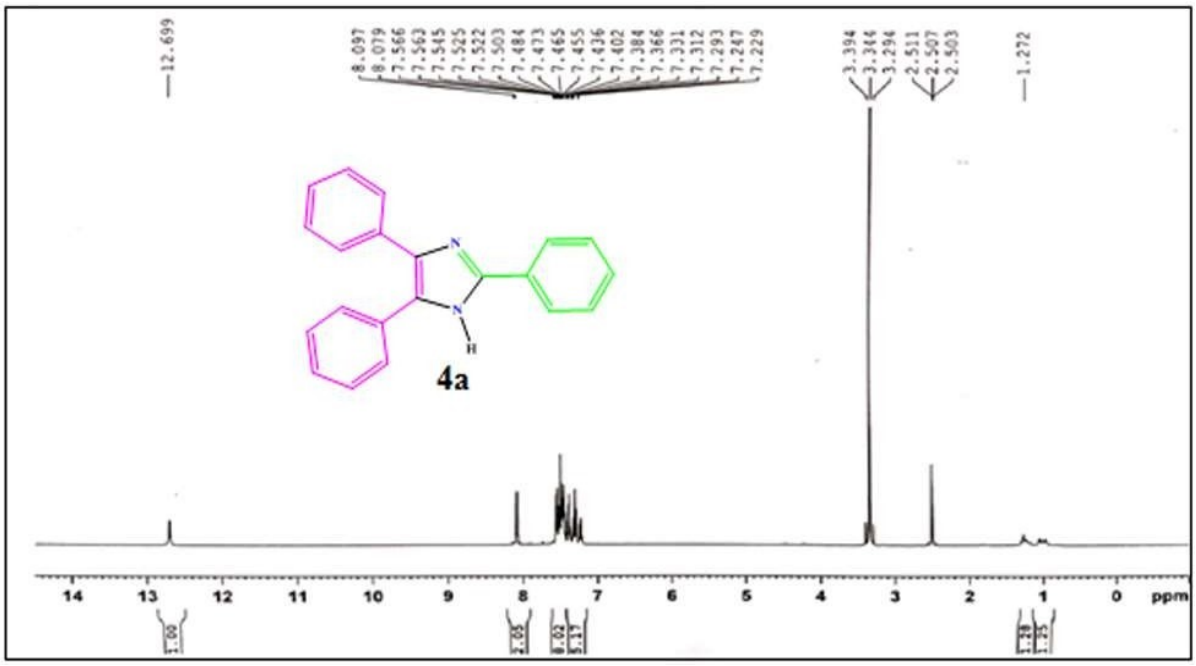
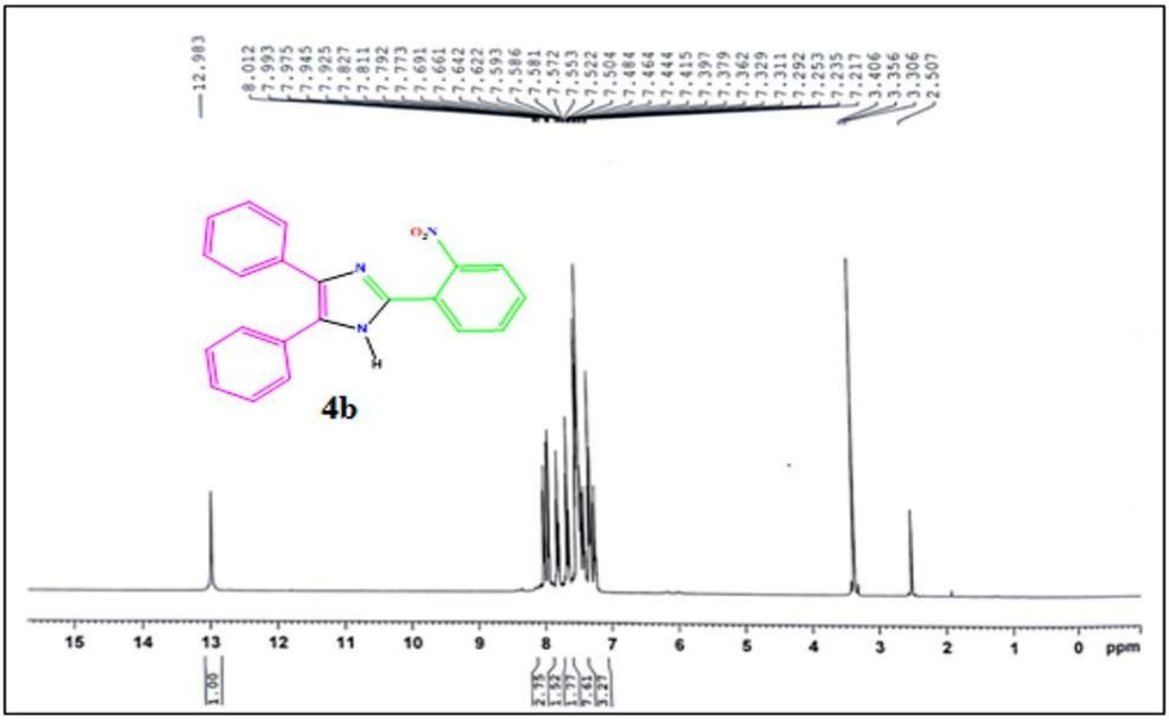
TABLEOFCONTENTs

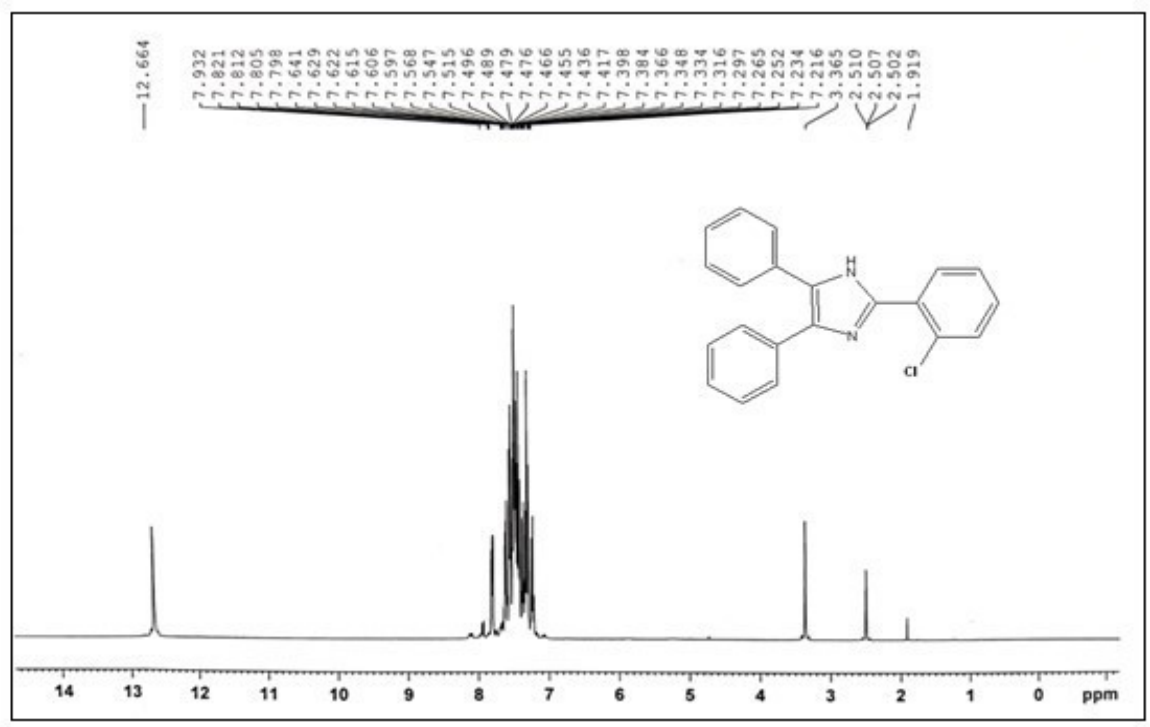
I. Copyof[1]HNMRspectra



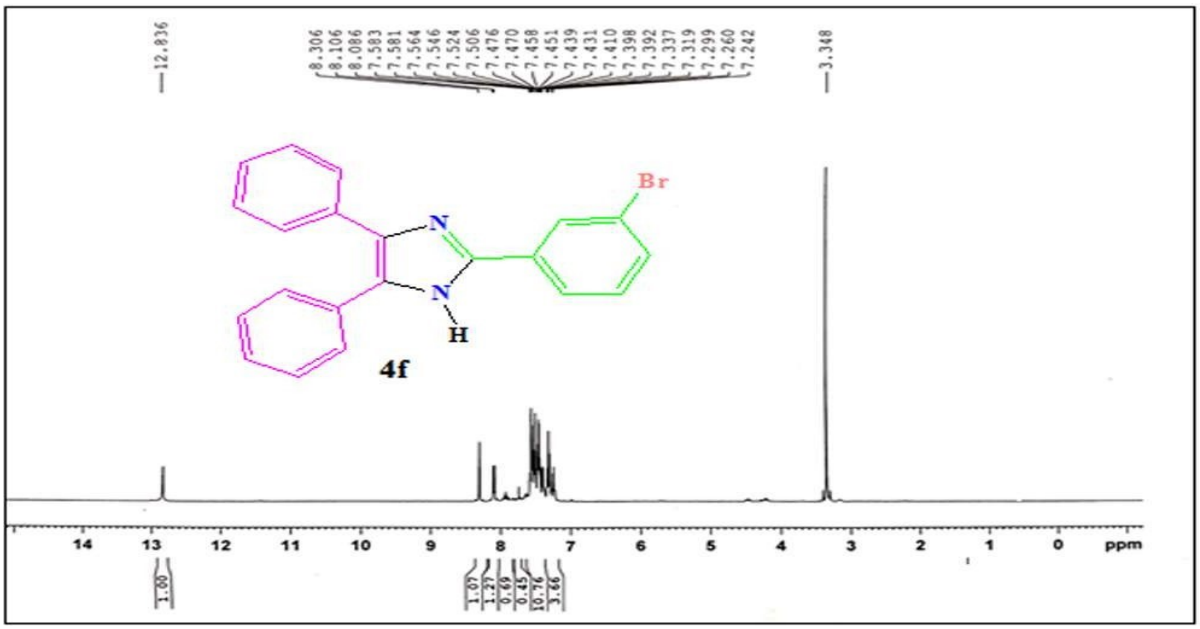
[1]HNMRspectraof2,4,5-triphenyl-1H-imidazole(4a)



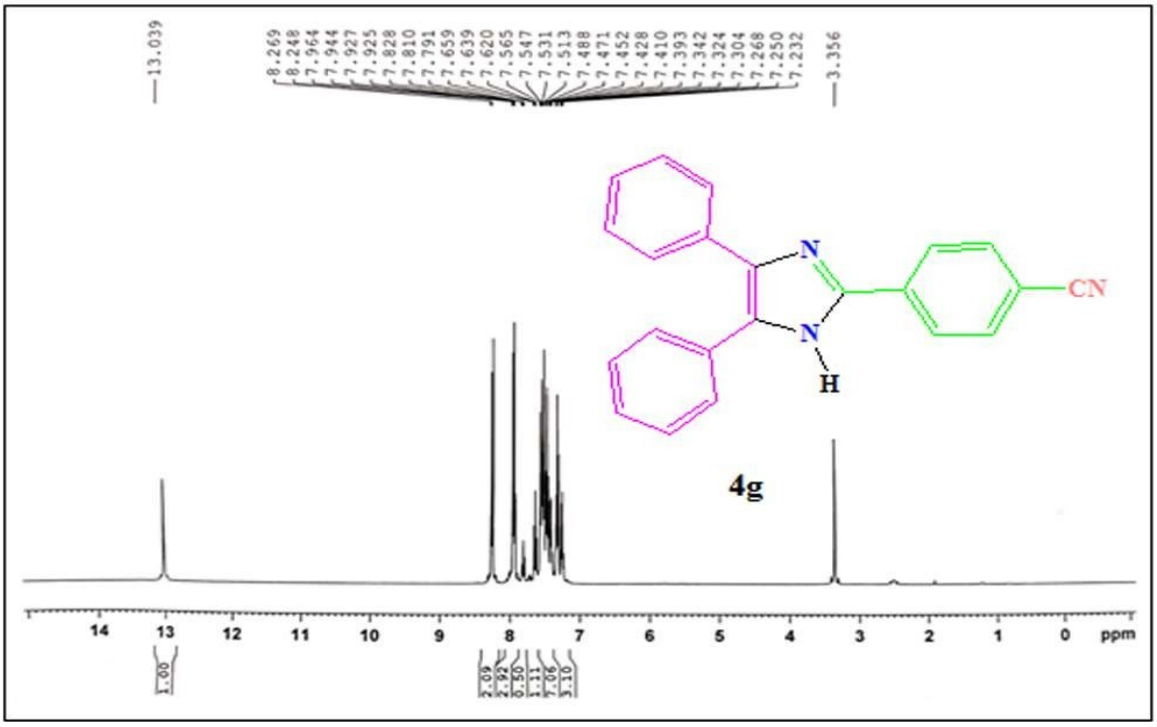
^{1}HNMR spectra of 2-(2-nitrophenyl)-4,5-diphenyl-1H-imidazole (4b)



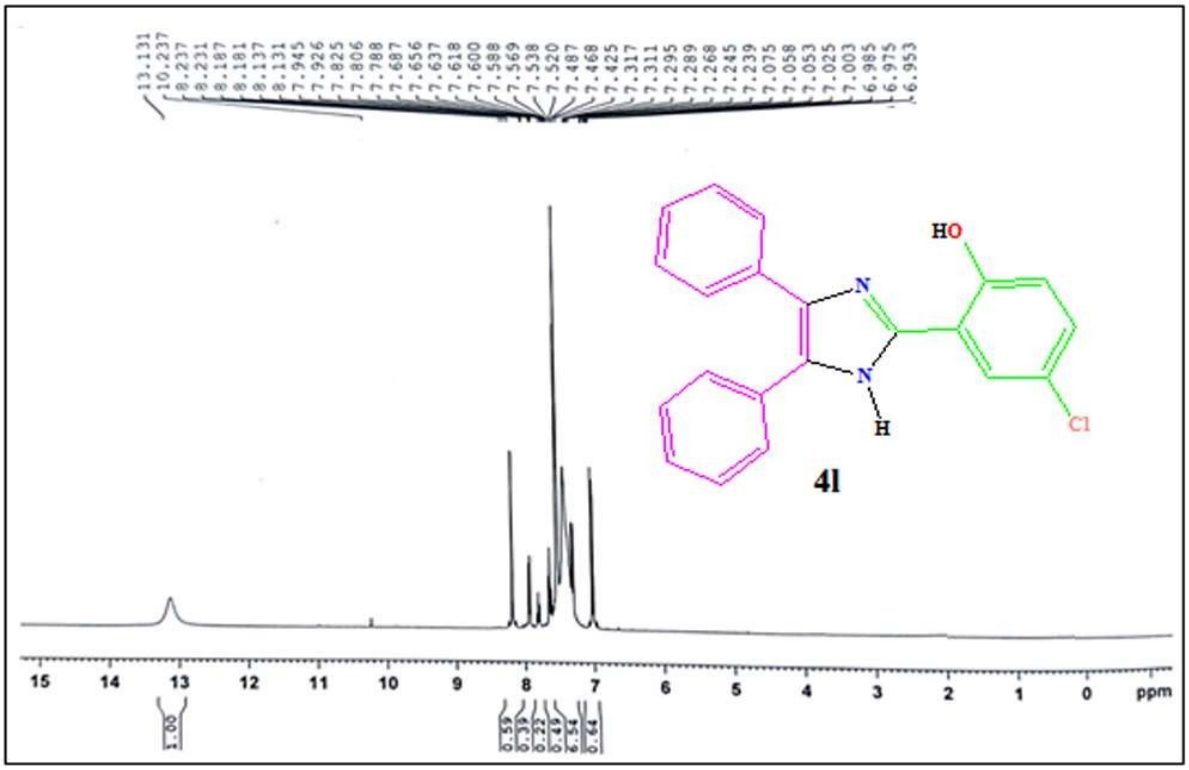
[1]HNMR spectra of 2-(2-chlorophenyl)-4,5-diphenyl-1H-imidazole (4e)



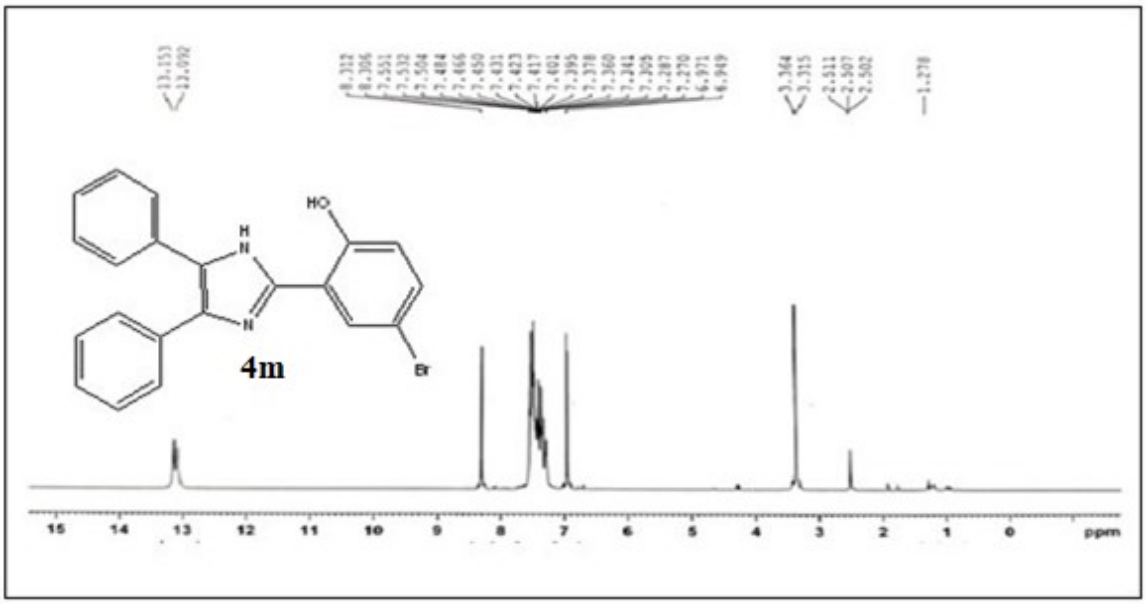
[1]HNMR spectra of 2-(3-bromophenyl)-4,5-diphenyl-1H-imidazole(4f)



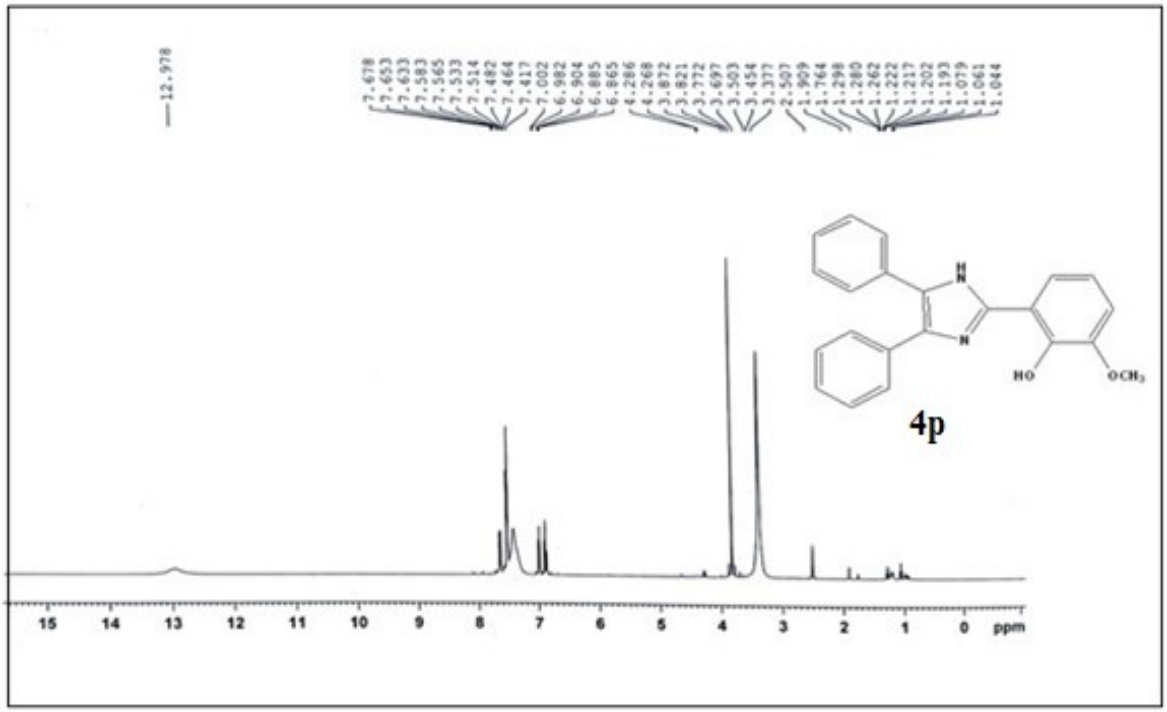
[1]HNMR of 4-(4,5-diphenyl-1H-imidazol-2-yl)benzonitrile (4g)



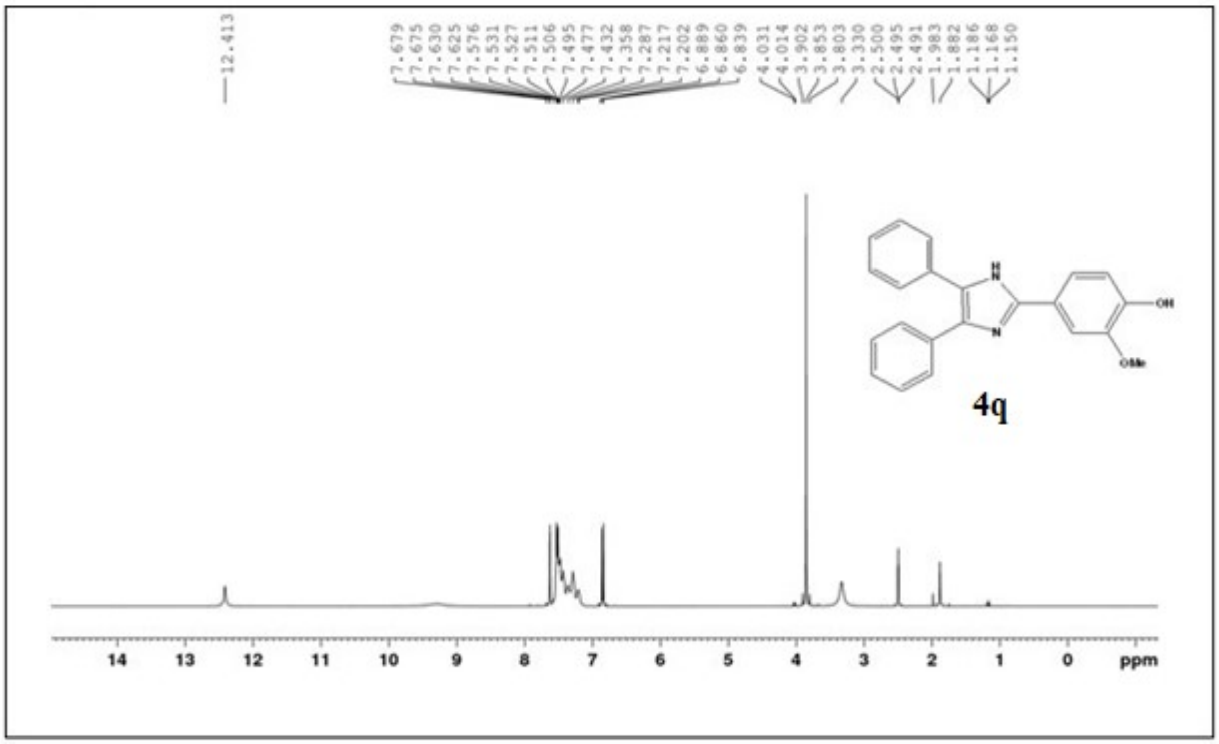
[1]HNMR spectra of 4-chloro-2-(4,5-diphenyl-1H-imidazol-2-yl)phenol(4l)



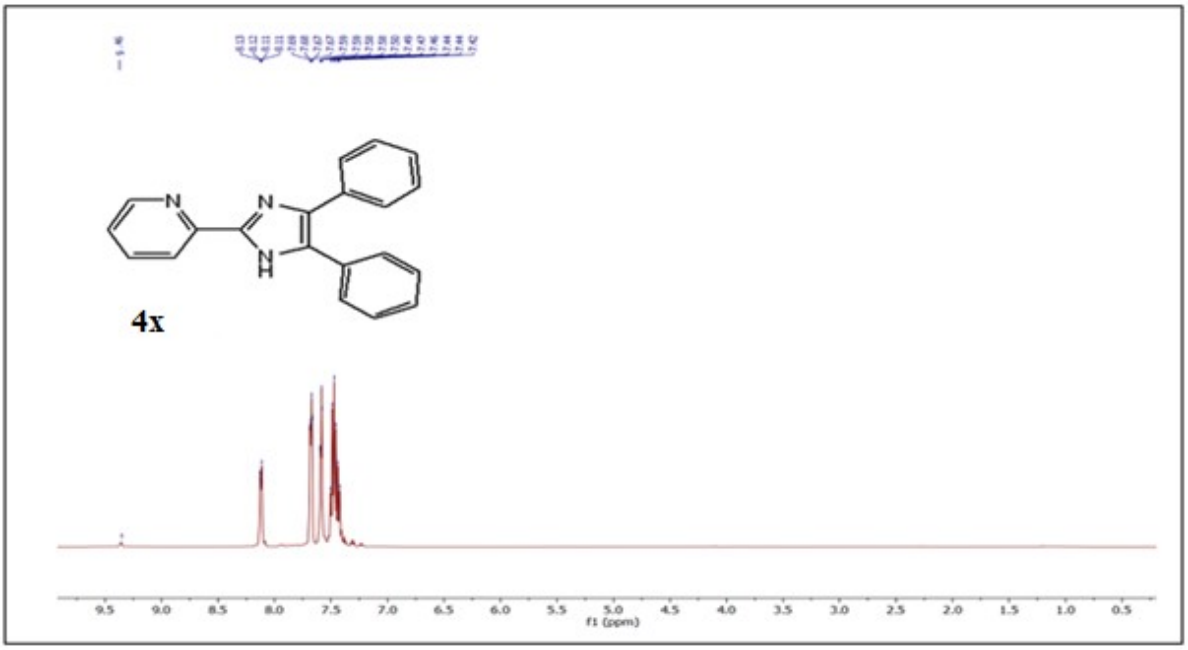
[1]HNMR spectra of 4-bromo-2-(4,5-diphenyl-1H-imidazol-2-yl)phenol(4m)



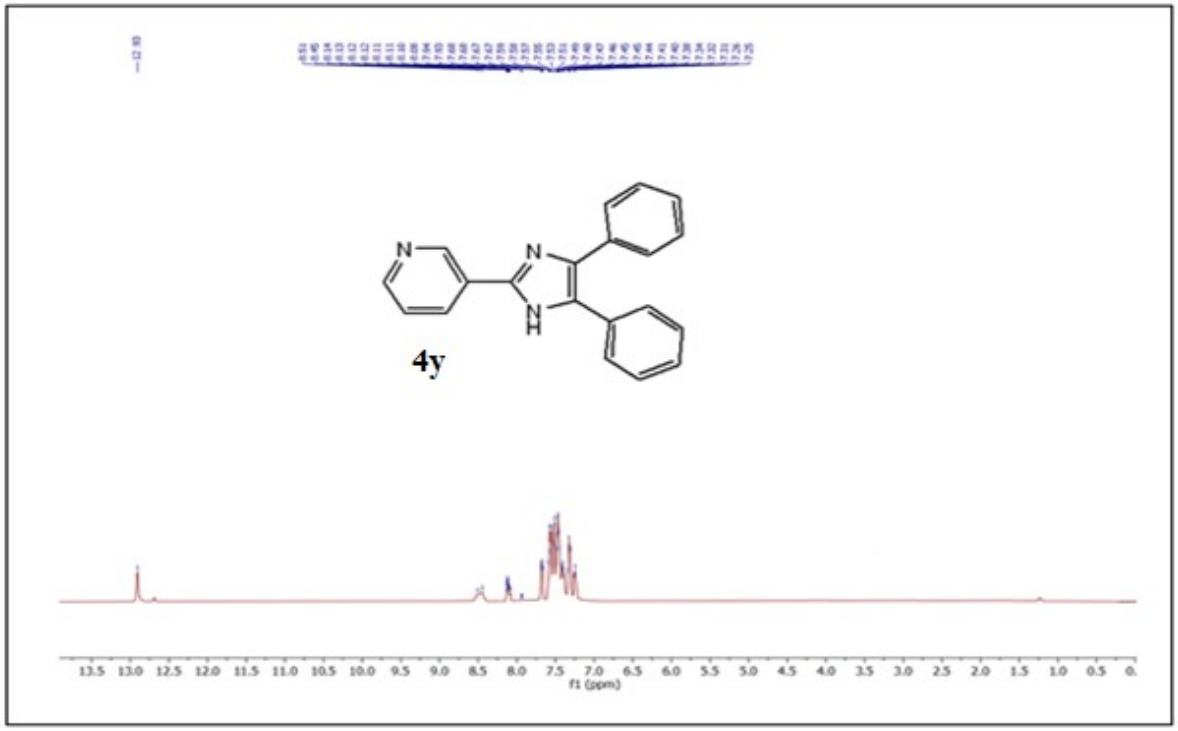
[1]HNMR spectra of 2-methoxy-6-(4,5-diphenyl-1H-imidazol-2-yl)phenol(4p)



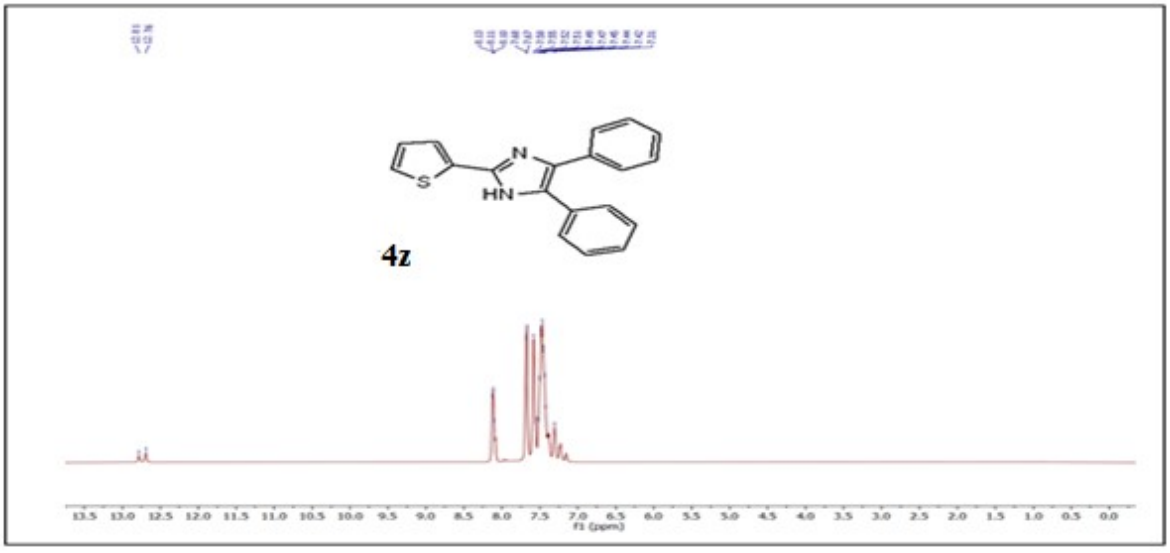
[1]HNMR spectra of 4-(4,5-diphenyl-1H-imidazol-2-yl)-2-methoxyphenol(4q)



[1]HNMR spectra of 2-(4,5-diphenyl-1H-imidazol-2-yl)pyridine(4x)



[1]HNMR spectra of 3-(4,5-diphenyl-1H-imidazol-2-yl)pyridine(4y)



[1]HNMR spectra of 4,5-diphenyl-2-(thiophen-2-yl)-1H-imidazole(4z)

Table S1. Crystal data collection and structure refinement for compound (6)

Crystal data	
Moiety formula, Chemical formula	$Cu_2C_8H_{16}O_{10}$, $Cu_2(O_2CCH_3)_4.2H_20$
Formula weight	399.31
Crystal system, Space group	Monoclinic, C 2/c
Colour, Size, mm	Blue, 0.24 ×0.22×0.20
Unit cell dimensions	
a, b, c	13.0799 (8) Å, 8.5056(4) Å, 13.7429(7) Å
α, β, γ	90°, 116.887(7) °, 90°
Volume $Å^3$, Z	1363.65(13), 4
Density (calculated), Mg/m^3	1.945
Absorption coefficient, mm^{-1}	3.164
F(000)	808
Data collection	
Temperature, K	119.98(10)
Theta range for data collection	2.96° to 29.01°
Index ranges	-17<=h<=17, -11<=k<=10, -18<=l<=17
Reflections collected	8716
Unique reflections	1660
Observed reflections (>2σ*(I)*)	1438
R_{int}	0.0387
Completeness to θ, %	29.01°, 91.1
Absorption correction	Multi-scan (Rigaku Oxford Diffraction, 2017)
	T_{min} = 0.473, T_{max} = 0.531
Refinement	
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	1660 / 0 / 101
Goodness-of-fit on F^2	1.052
Final R indices [I > 2σI)]	R_1 = 0.0266, wR_2 = 0.0582
R indices (all data)	R_1 = 0.0328, wR_2 = 0.0603
Largest diff. peak and hole	0.532 and -0.566 e.$Å^{-3}$

III. Tabel S2selected bond lengths (Å) and bond angles (º) for compound (6)

Bond lengths (Å)			
Cu(1)-Cu(1)^{i}	2.6118(5)	Cu(1)-O(3)	1.9847(15)
Cu(1)-O(1)	2.1411(17)	Cu(1)-O(4)	1.9415(15)
Cu(1)-O(2)	1.9907(15)	Cu(1)-O(5)	1.9559(15)
Symmetry Code: (i) –x+1, -y+1, –z+1			
Bond angles (°)			
O(2)-Cu(1)-O(1)	92.58(7)	O(4)-Cu(1)-O(2)	90.29(6)
O(3)-Cu(1)-O(1)	98.35(7)	O(5)-Cu(1)-O(2)	89.42(6)
O(4)-Cu(1)-O(1)	97.28(7)	O(4)-Cu(1)-O(3)	87.20(6)
O(5)-Cu(1)-O(1)	93.52(7)	O(5)-Cu(1)-O(3)	91.06(6)

Table S3. Hydrogen bonded geometries in compound (6)

Bond	D - H	H···A	D···A	D - H···A
O(1)–H(1A)···O(3)^{iii}	0.73(3)	2.16(3)	2.892(3)	171(3)
O(1)–H(1B)···O(2)^{iv}	0.77(3)	2.02(3)	2.786(2)	175(4)
C(4)–H(4A)···O(5)^{v}	0.96	2.58	3.522(3)	168
Symmetry Code: (iii) -1/2-x, 1/2-y, -z; (iv) –x, y, 1/2-z; (v) 1/2+x, 1/2+y, z				