

Supplementary Materials: Synthesis, Characterization and Antibacterial Studies of *N*-(Benzothiazol-2-yl)-4-chlorobenzenesulphonamide and Its Neodymium(III) and Thallium(III) Complexes

Lawrence Nnamdi Obasi, Uchechukwu Susan Oruma, Ibrahim Abdulrazak Al-Swaidan, Ponnadurai Ramasami, Chigozie Julius Ezeorah and Alfred Ezinna Ochonogor

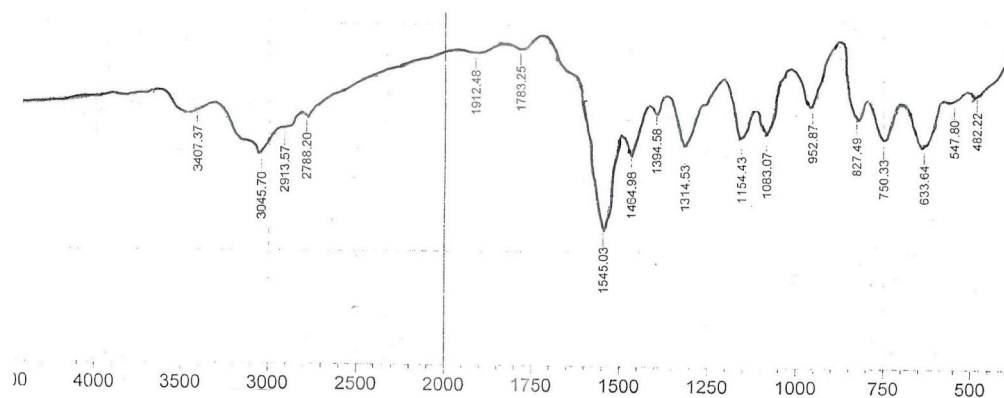


Figure S1 FTIR Spectrum of NBTCS.

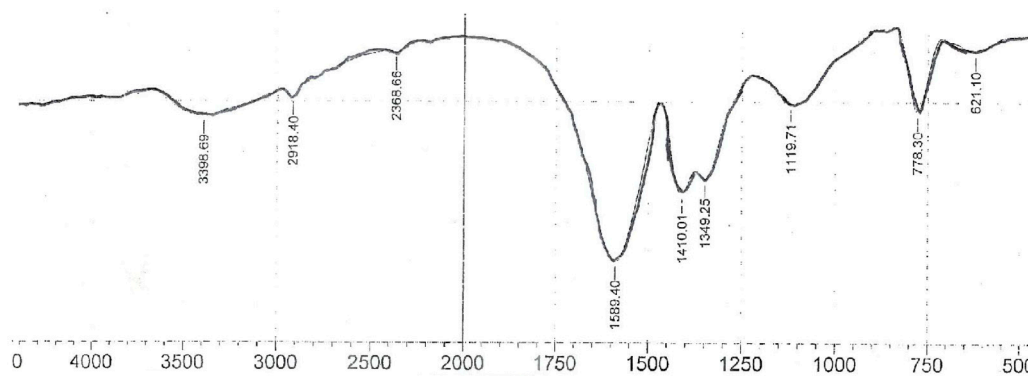


Figure S2. FTIR Spectrum of [Nd(NBTCS)₂(H₂O)₂]NO₃.

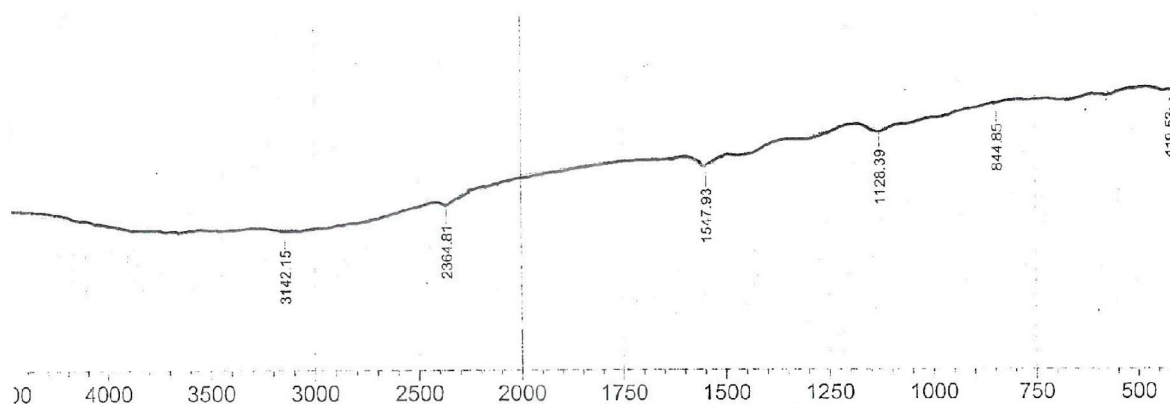


Figure S3. FTIR Spectrum of [Tl(NBTCS)₂]CH₃COO.

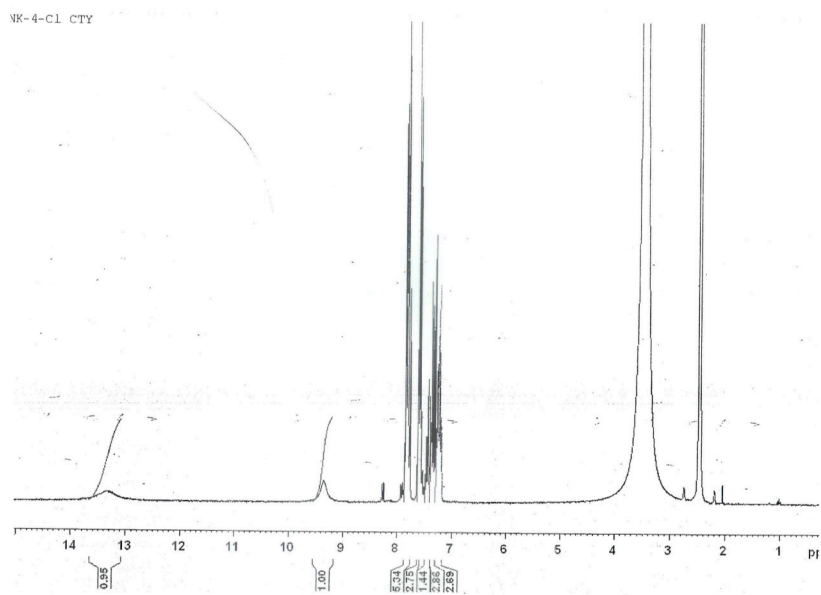


Figure S4. ¹H-NMR Spectrum of NBTCs.

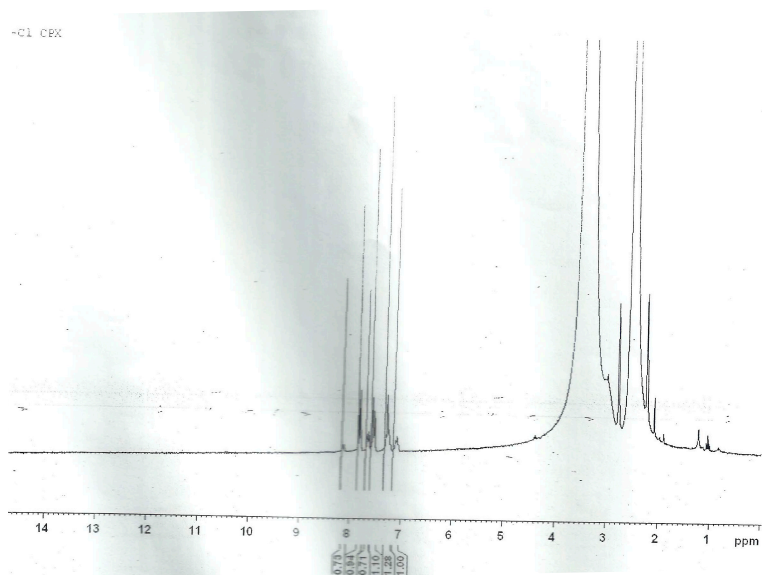


Figure S5. ¹H-NMR Spectrum of [Nd(NBTCs)₂(H₂O)₂]⁺NO₃⁻.

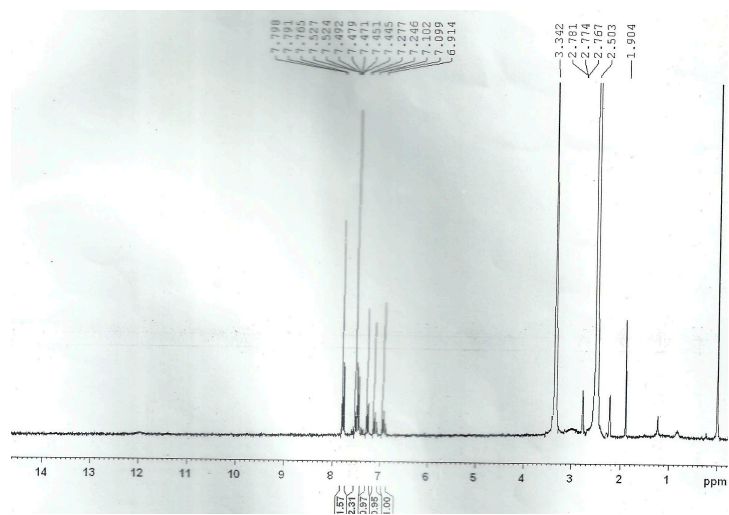


Figure S6. ¹H-NMR Spectrum of [Ti(NBTCs)₂]⁺CH₃COO⁻.

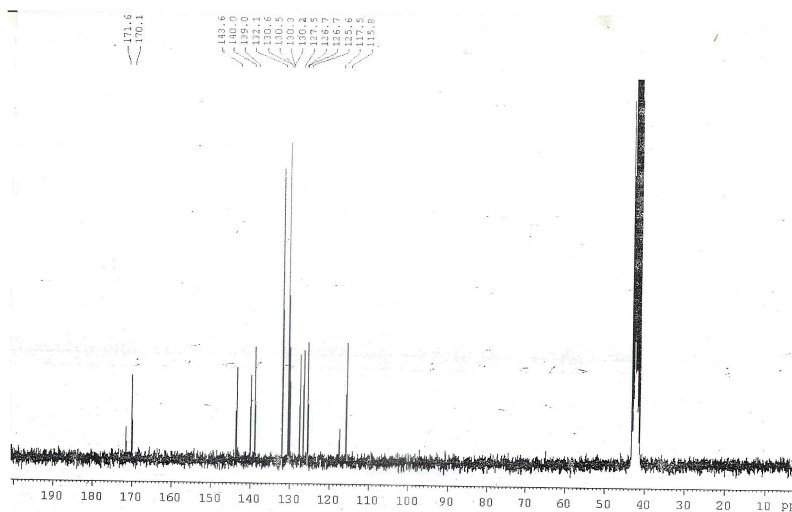


Figure S7. ^{13}C -NMR Spectrum of NBTCS.

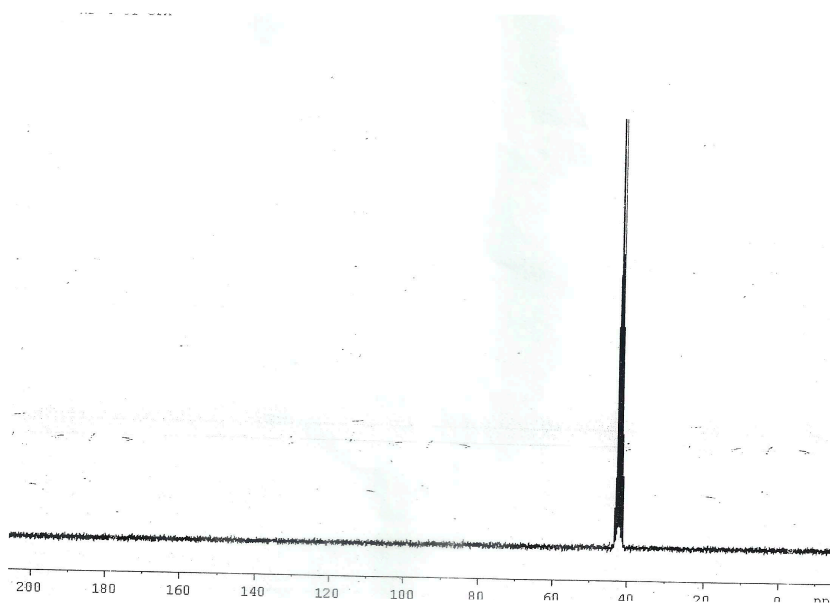


Figure S8. ^{13}C -NMR Spectrum of $[\text{Nd}(\text{NBTCS})_2(\text{H}_2\text{O})_2]\text{NO}_3$.

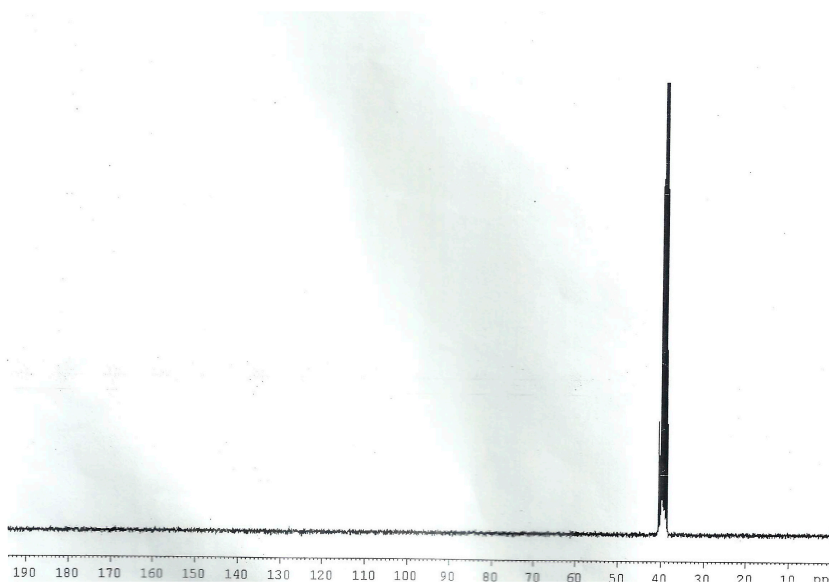
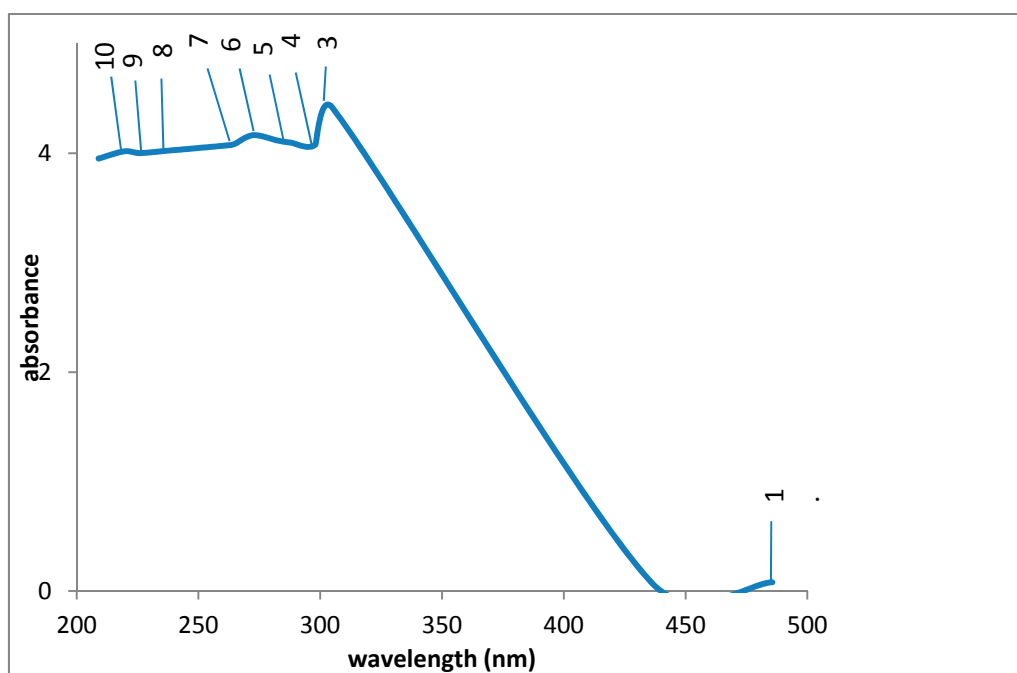
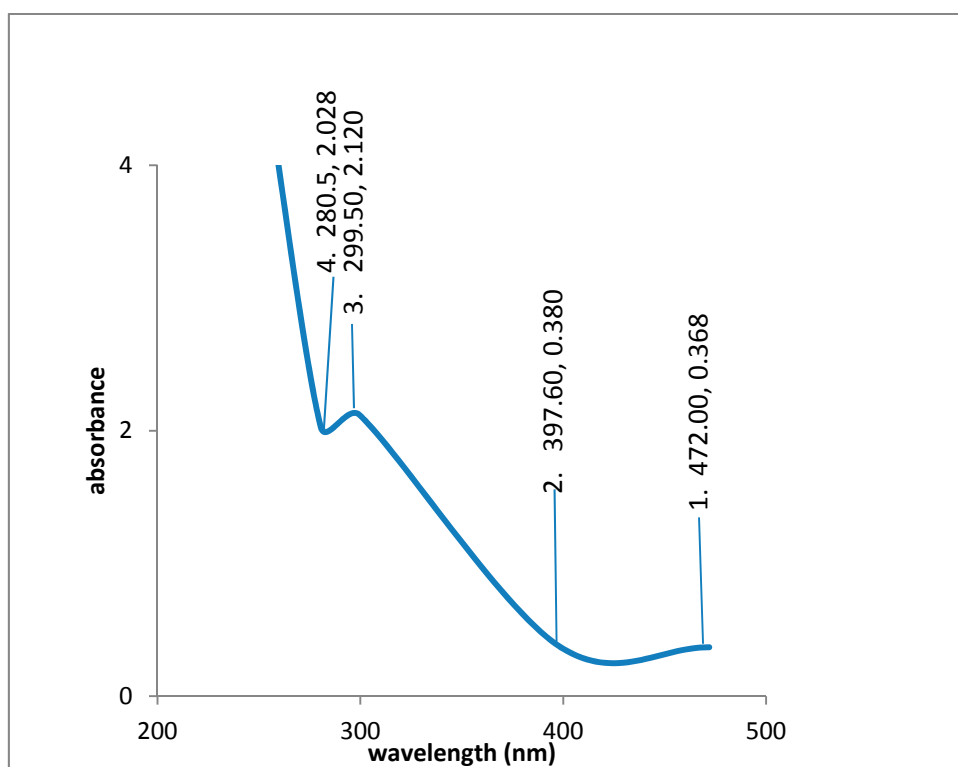


Figure S9. ^{13}C -NMR Spectrum of $[\text{Ti}(\text{NBTCS})_2]\text{CH}_3\text{COO}$.



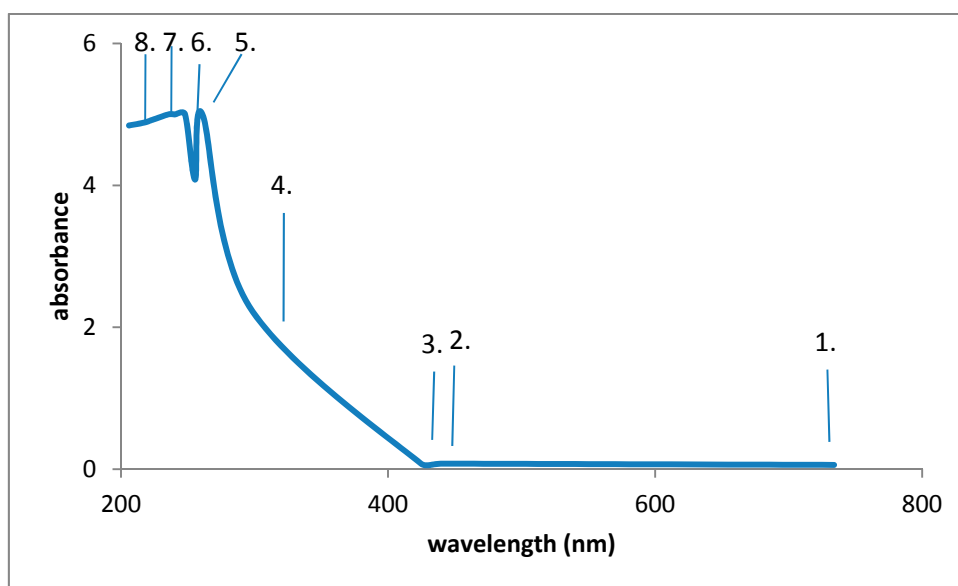
λ (nm)	Absorbance	Plot
485.50	0.080	1
436.00	0.078	2
305.00	4.418	3
298.00	4.078	4
287.50	4.098	5
282.50	4.116	6
272.50	4.155	7
265.00	4.086	8
253.00	4.074	9
235.50	4.019	10
226.00	4.001	11
219.50	4.017	12
209.00	3.951	13

Figure S10. UV-Visible Spectrum of NBTCs.



λ (nm)	Absorbance	Plot
472.00	0.368	1
397.50	0.380	2
299.50	2.120	3
280.50	2.028	4
250.00	5.000	5
237.00	5.000	6
230.50	4.942	7
224.50	4.923	8
218.50	4.8110	9
211.50	4.808	10

Figure S11. UV-Visible Spectrum of $[\text{Nd}(\text{NBTCS})_2(\text{H}_2\text{O})_2]\text{NO}_3$.



λ (nm)	Absorbance	Plot
734.00	0.060	1
441.00	0.078	2
424.50	0.081	3
296.00	2.297	4
261.00	5.000	5
255.50	4.081	6
248.00	5.000	7
240.50	5.000	8
235.50	5.000	9
223.50	4.923	10
217.00	4.883	11
206.00	4.844	12

Figure S12. UV-Visible Spectrum of [Tl(NBTCS)₂]CH₃COO.