

Electronic Supplementary Information

Application of novel triarylmethane dyes having thienyl, thieno[3,2-*b*]thienyl, and dithieno[3,2-*b*:2',3'-*d*]thienyl rings as auxochrome to superacid pH sensor

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Figure S1. ¹H NMR of **5-OH**.

Figure S1'. ¹H NMR of **5-OH**.

Figure S2. ¹H NMR of **6-OH**.

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Figure S3. ¹H NMR of **7-OH**.

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Figure S4. ¹H NMR of **5-BF₄**.

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Figure S5. ¹H NMR of **5-CF₃SO₃**.

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Figure S6. ¹H NMR of **5-(C₄F₉SO₂)₂N**.

Figure S6'. ¹H NMR of **5-(C₄F₉SO₂)₂N**.

Figure S7. ¹H NMR of **6-(C₄F₉SO₂)₂N**.

Figure S7'. ¹H NMR of **6-(C₄F₉SO₂)₂N**.

Figure S8. ^1H NMR of **7-(C₄F₉SO₂)₂N**.

Figure S8'. ^1H NMR of **7-(C₄F₉SO₂)₂N**.

Figure S9. ^1H NMR of **CV-(C₄F₉SO₂)₂N**.

Figure S9'. ^1H NMR of **CV-(C₄F₉SO₂)₂N**.

Figure S10. ^1H NMR of **5-OEt**.

Figure S10'. ^1H NMR of **5-OEt**.

Figure S10''. ^1H NMR of **5-OEt**.

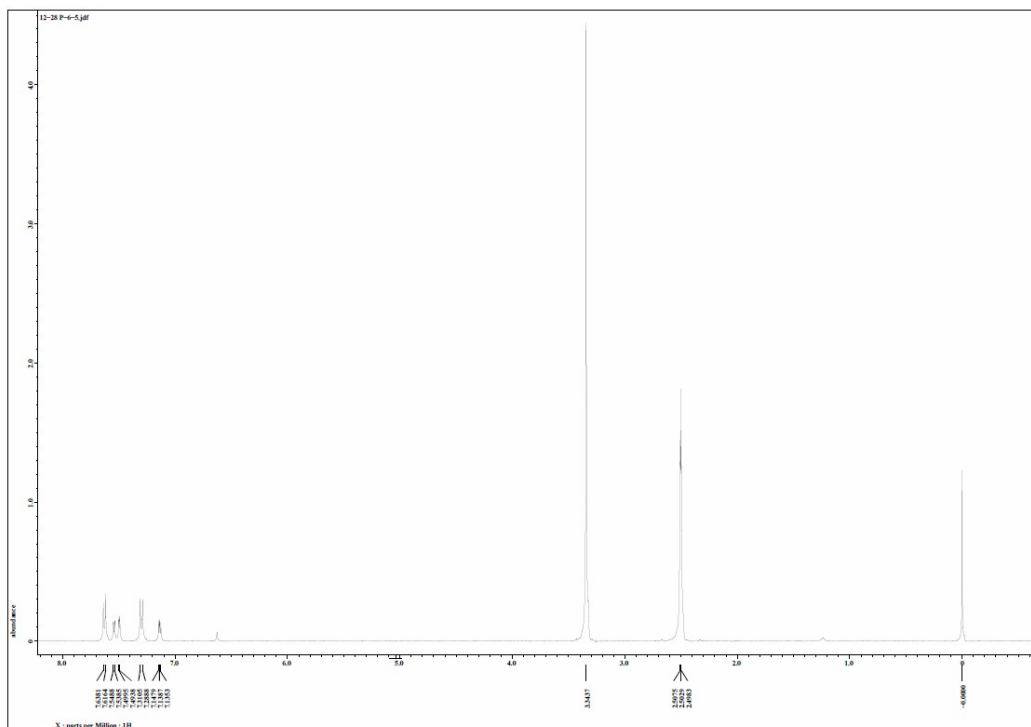


Figure S1. ^1H NMR of 5-OH. □□□

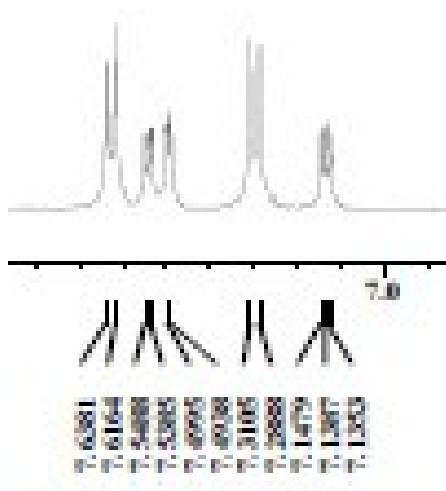


Figure S1'. ^1H NMR of 5-OH. □□□

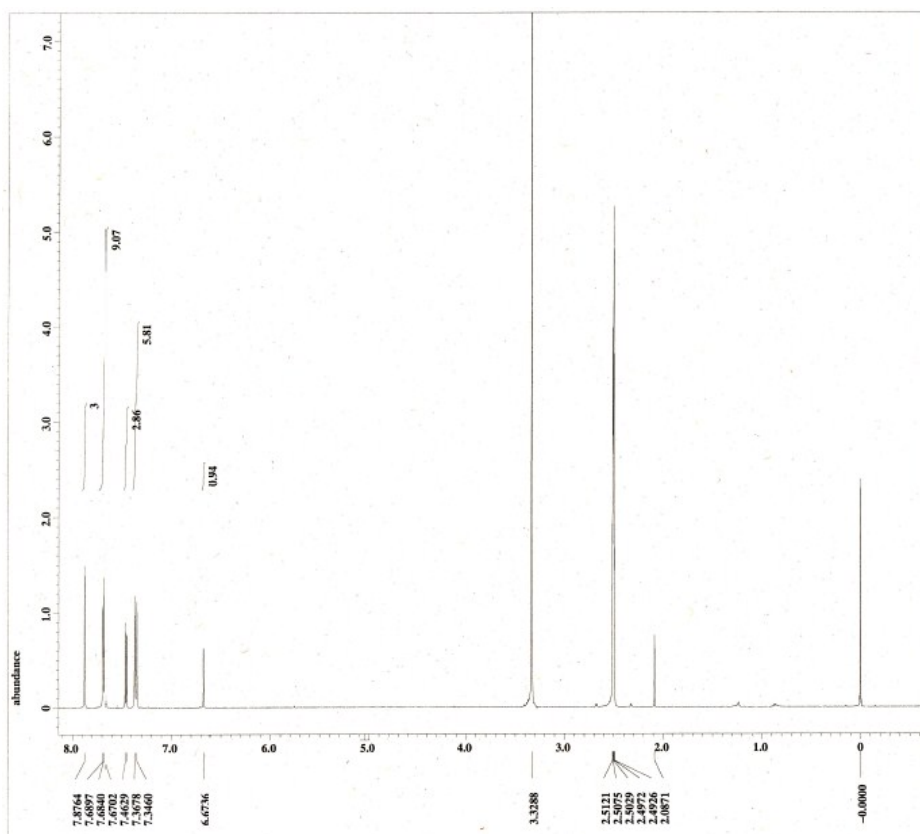


Figure S2. ^1H NMR of 6-OH.

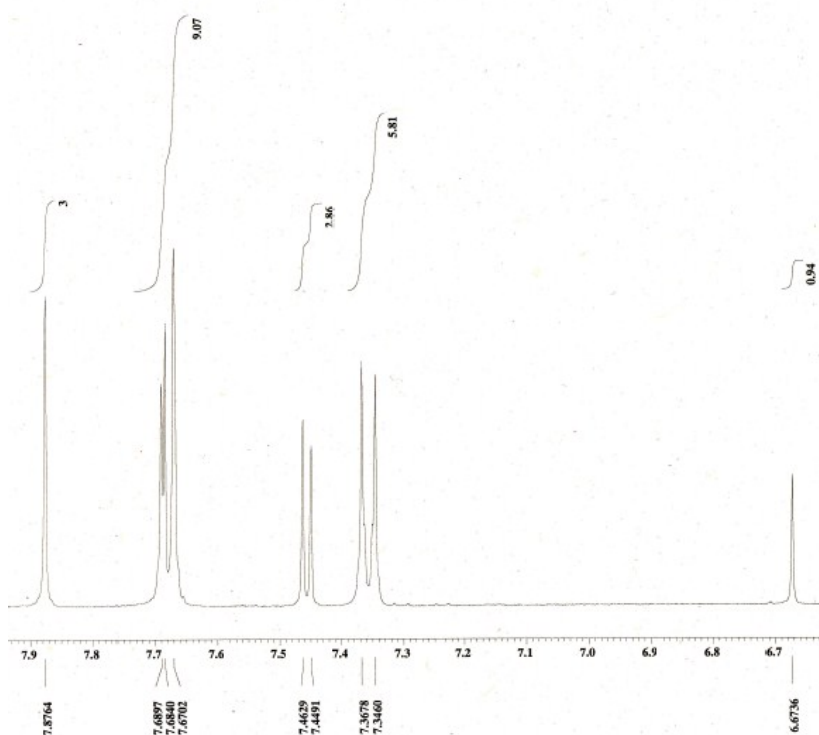


Figure S2'. ^1H NMR of 6-OH.

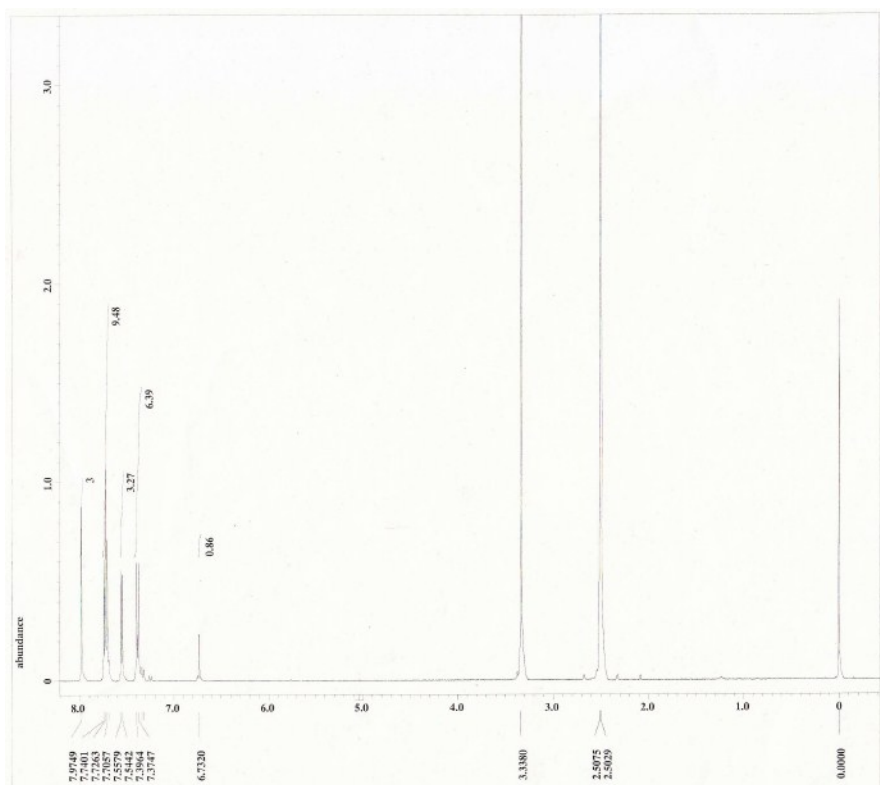


Figure S3. ¹H NMR of 7-OH.

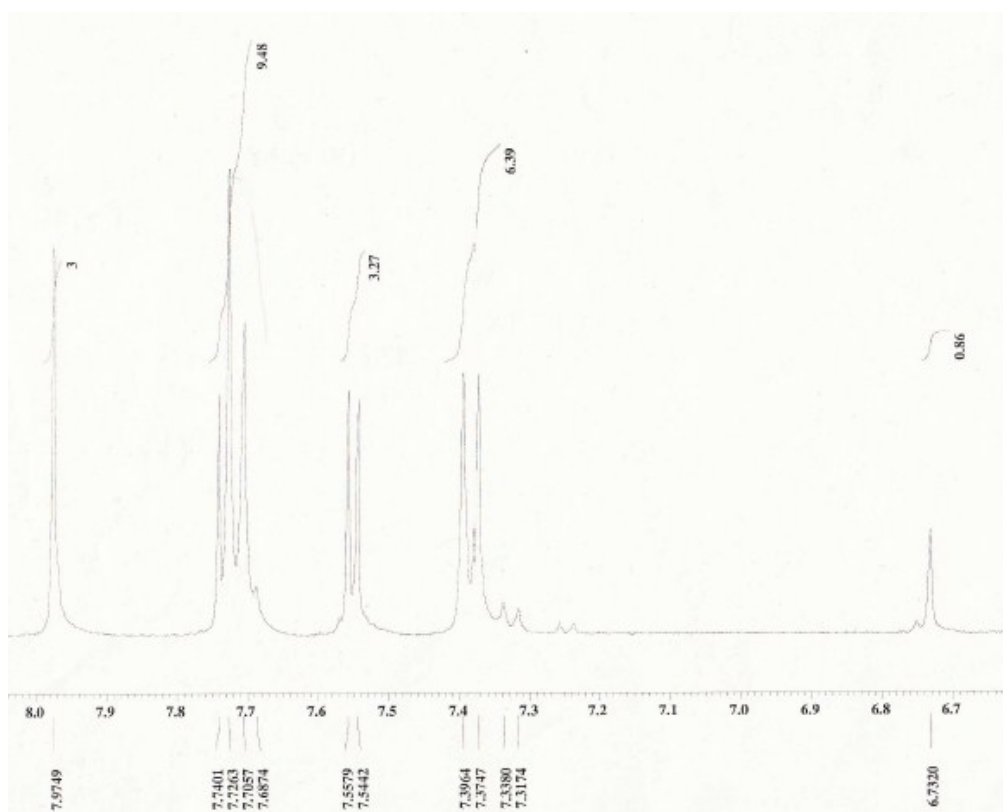


Figure S3'. ¹H NMR of 7-OH.

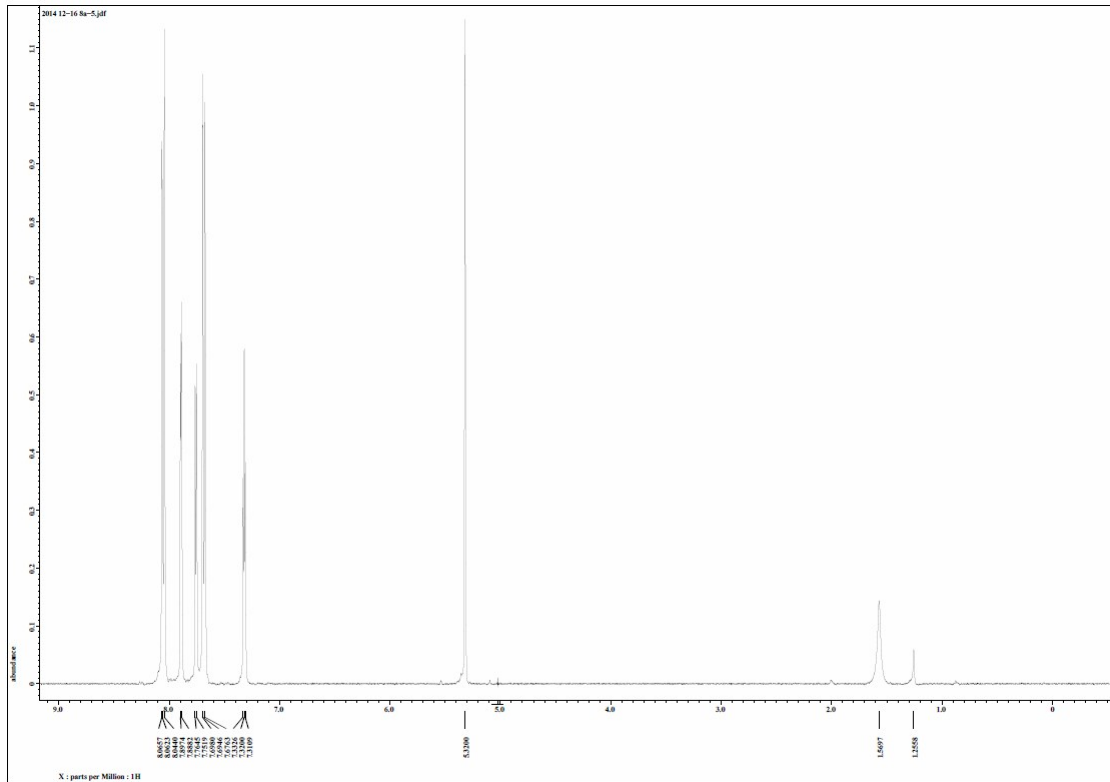


Figure S4. ^1H NMR of **5-BF₄**.

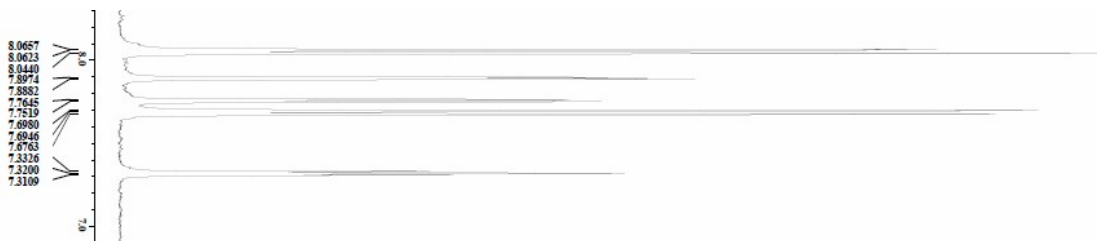


Figure S4'. ^1H NMR of **5-BF₄**.

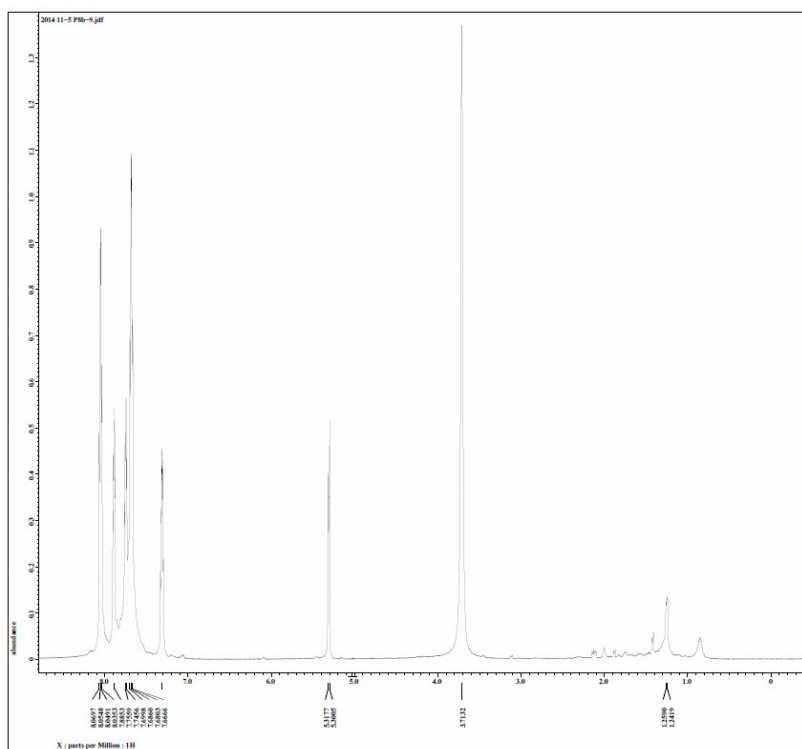


Figure S5. ^1H NMR of $5\text{-CF}_3\text{SO}_3$.



Figure S5'. ^1H NMR of $5\text{-CF}_3\text{SO}_3$.

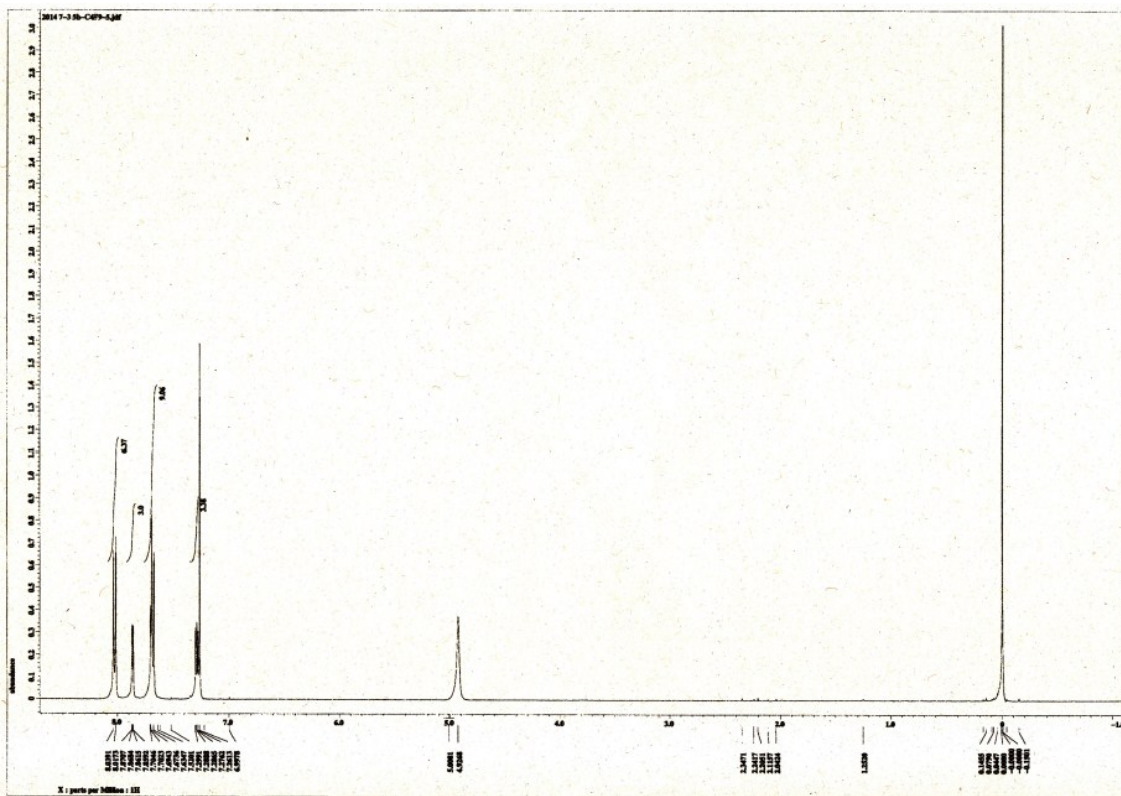


Figure S6. ^1H NMR of $5\text{-(C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

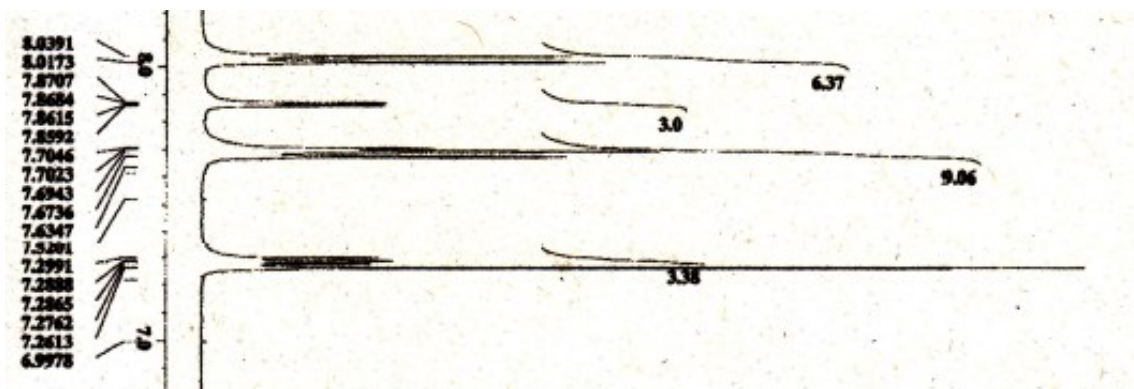


Figure S6'. ^1H NMR of $5\text{-(C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

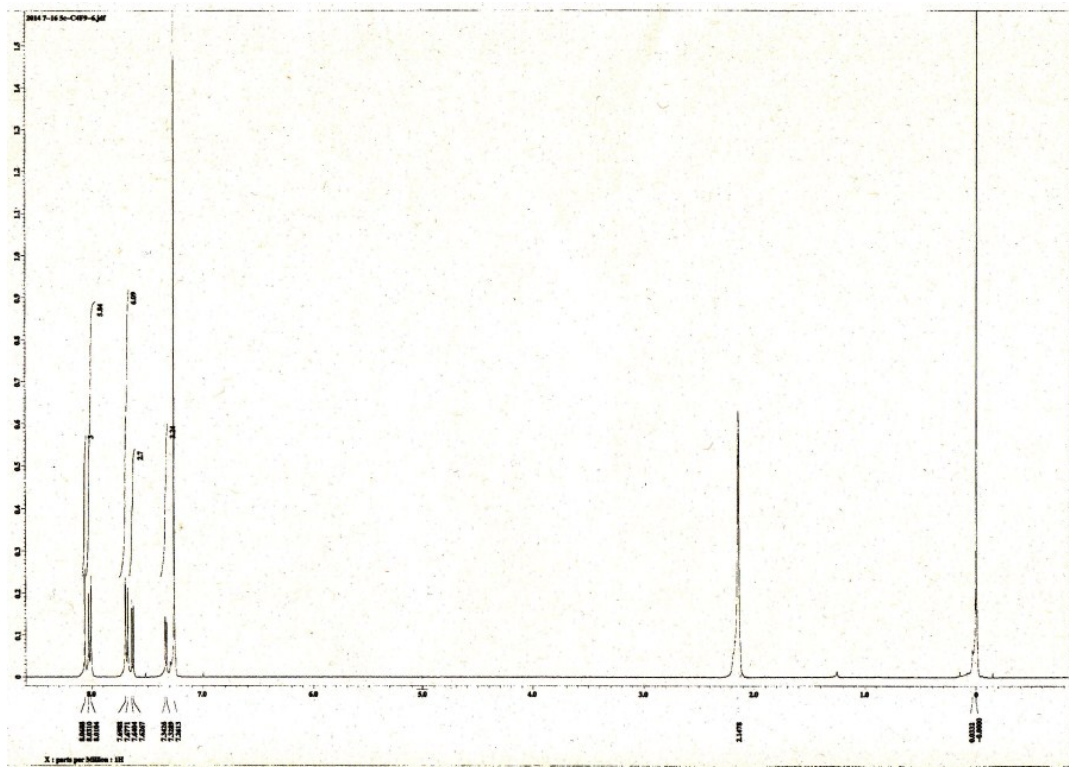


Figure S7. ^1H NMR of $6-(\text{C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

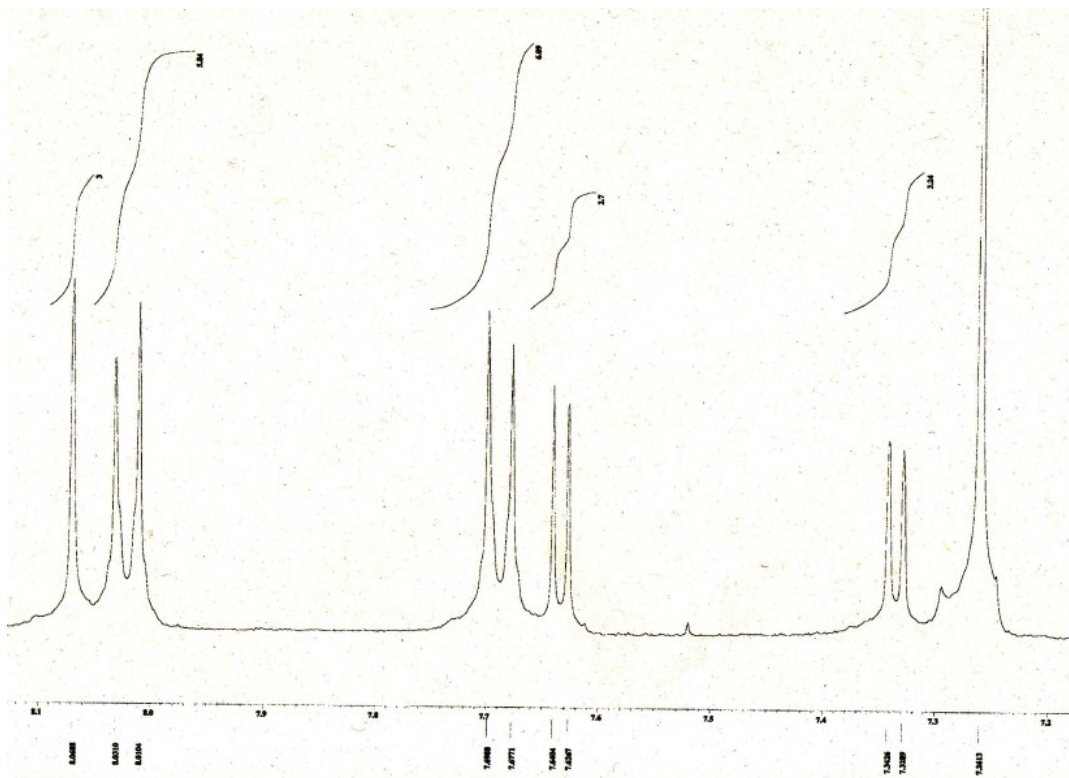


Figure S7'. ^1H NMR of $6-(\text{C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

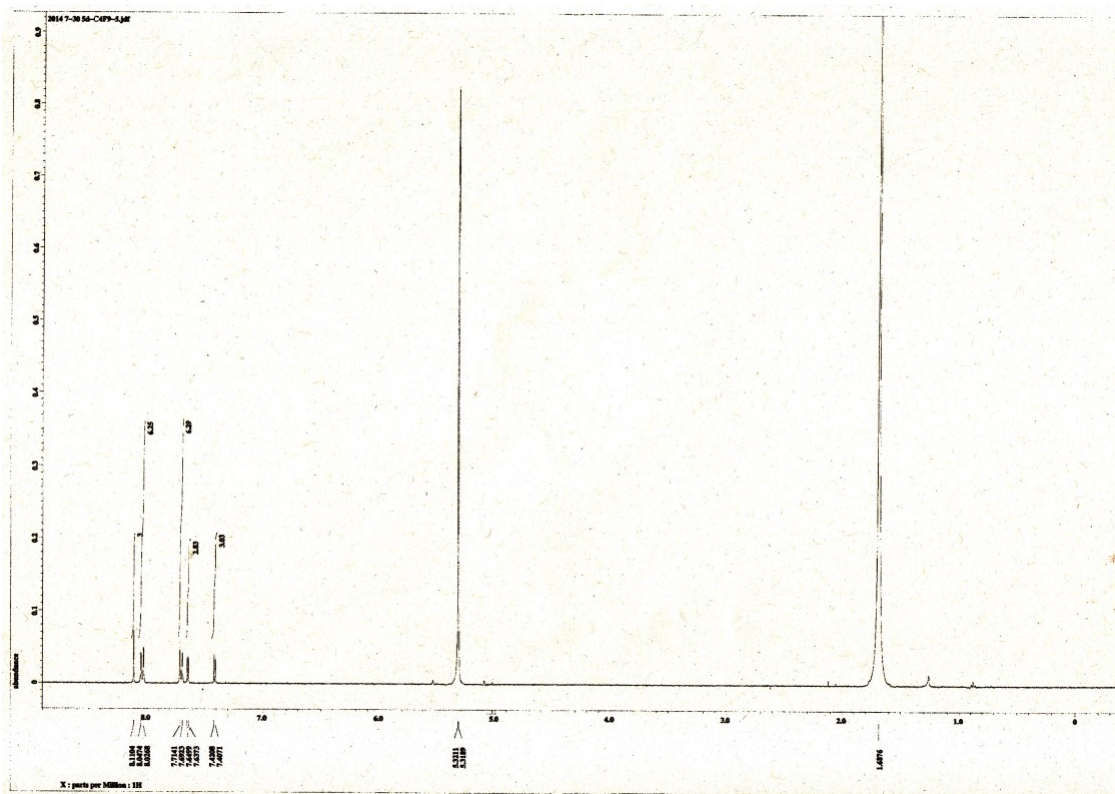


Figure S8. ¹H NMR of 7-(C₄F₉SO₂)₂N.

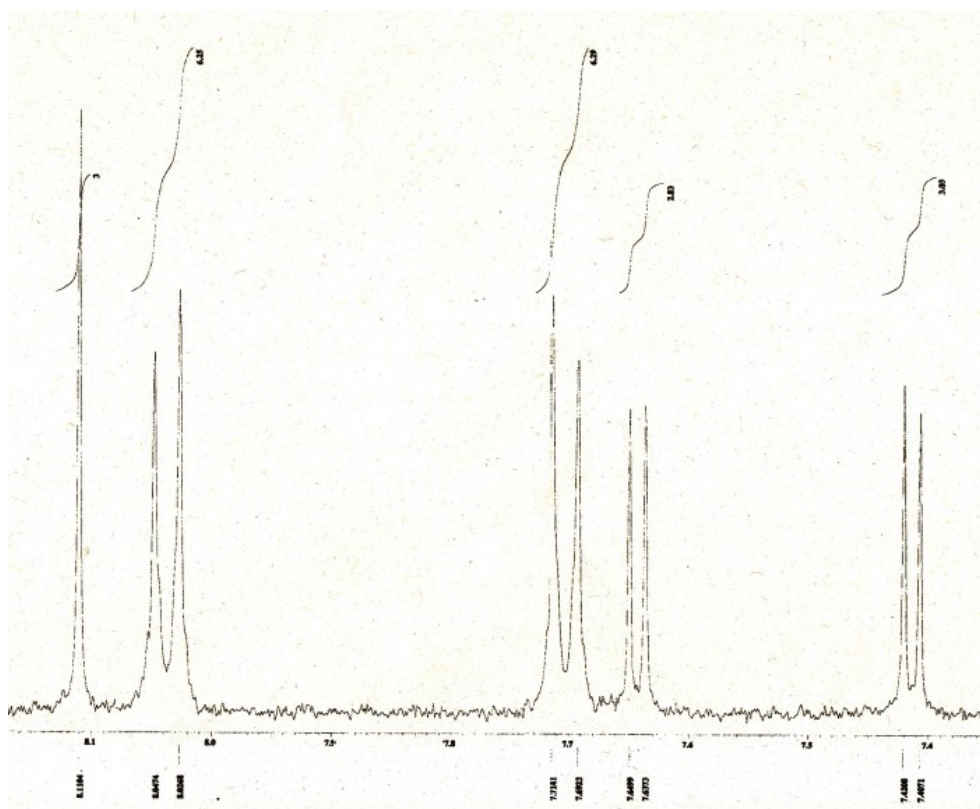


Figure S8'. ¹H NMR of 7-(C₄F₉SO₂)₂N.

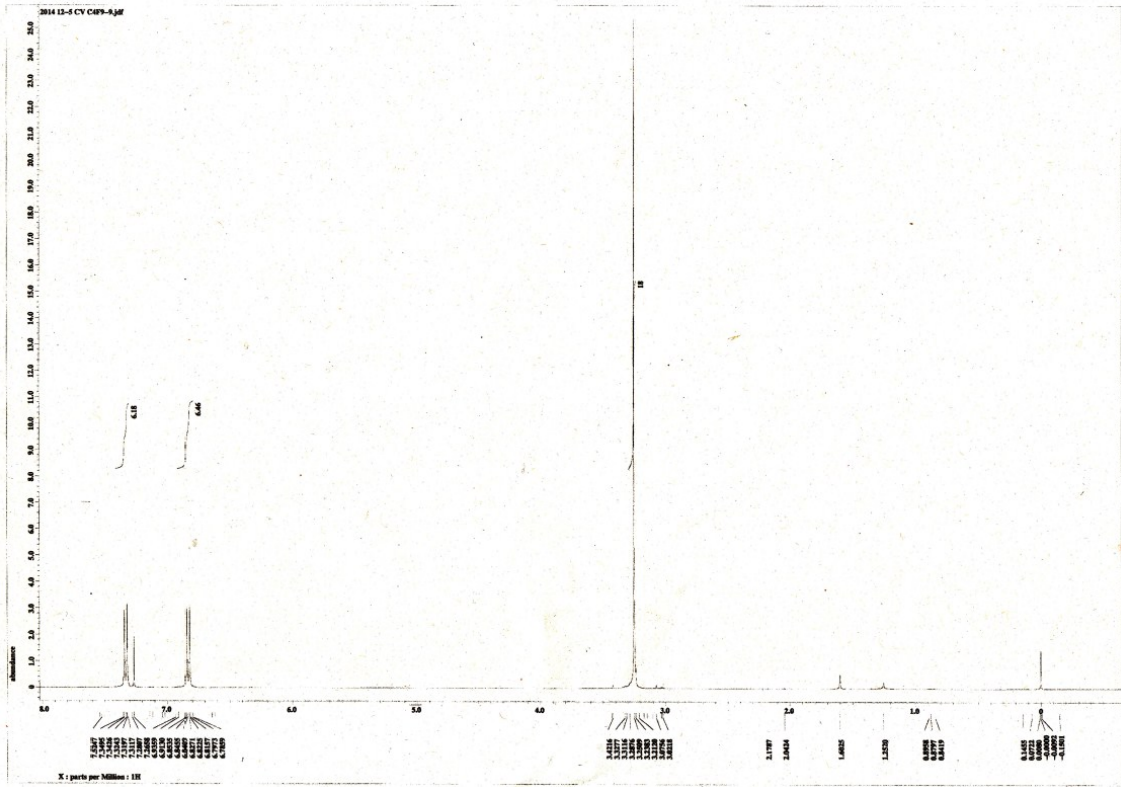


Figure S9. ^1H NMR of $\text{CV}-(\text{C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

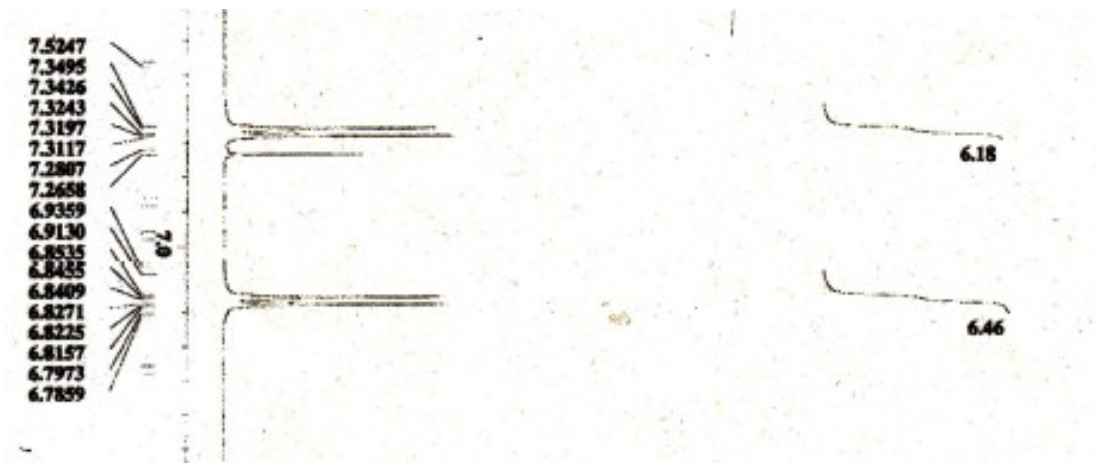


Figure S9'. ^1H NMR of $\text{CV}-(\text{C}_4\text{F}_9\text{SO}_2)_2\text{N}$.

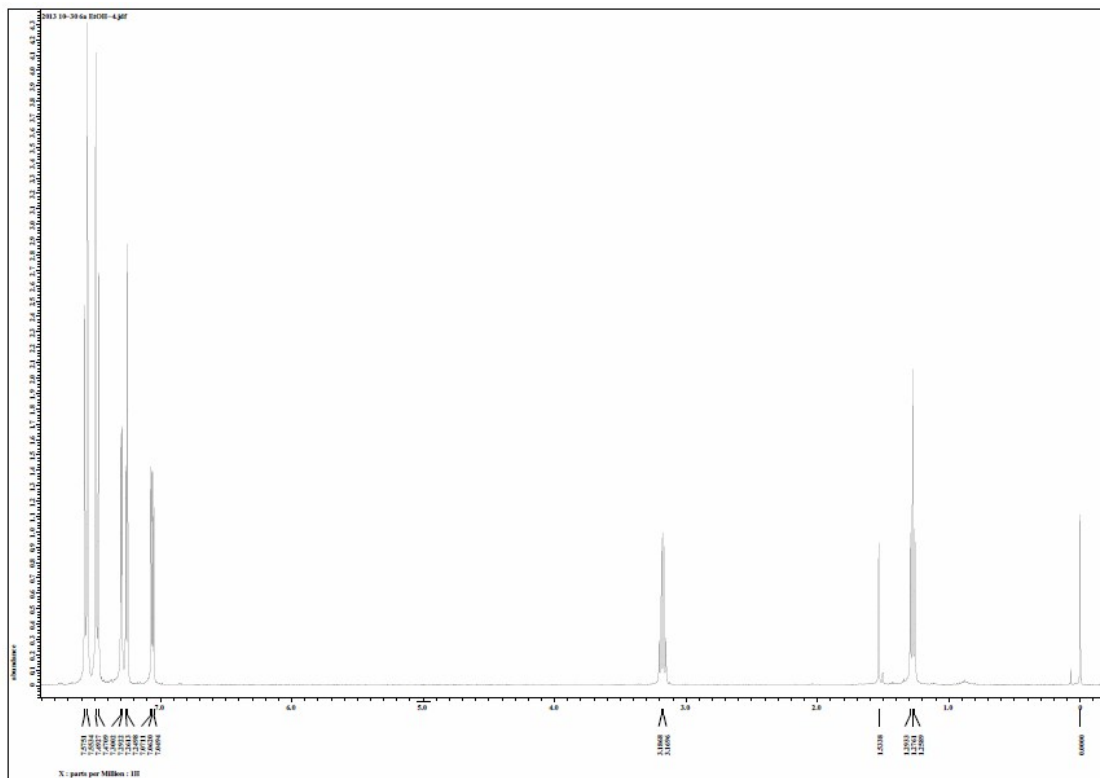


Figure S10. ^1H NMR of **5-OEt**.



Figure S10'. ^1H NMR of **5-OEt**.



Figure S10''. ^1H NMR of **5-OEt**.