Supporting Information for

Bis(thiosemicarbazone) Complexes of Cobalt(III). Synthesis, Characterization, and Anticancer Potential

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Contents

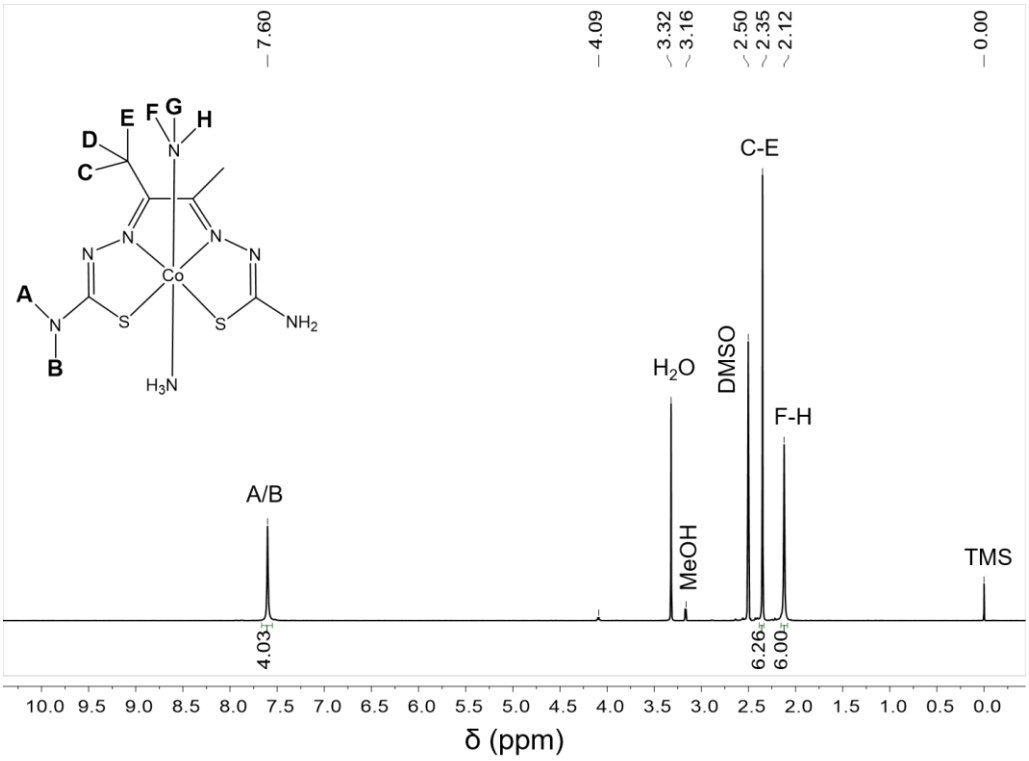

Figure S1. ^{1}H NMR spectrum of $[Co(ATS)(NH_3)_2]^+$ (DMSO-d_6, 500 MHz, 298 K)

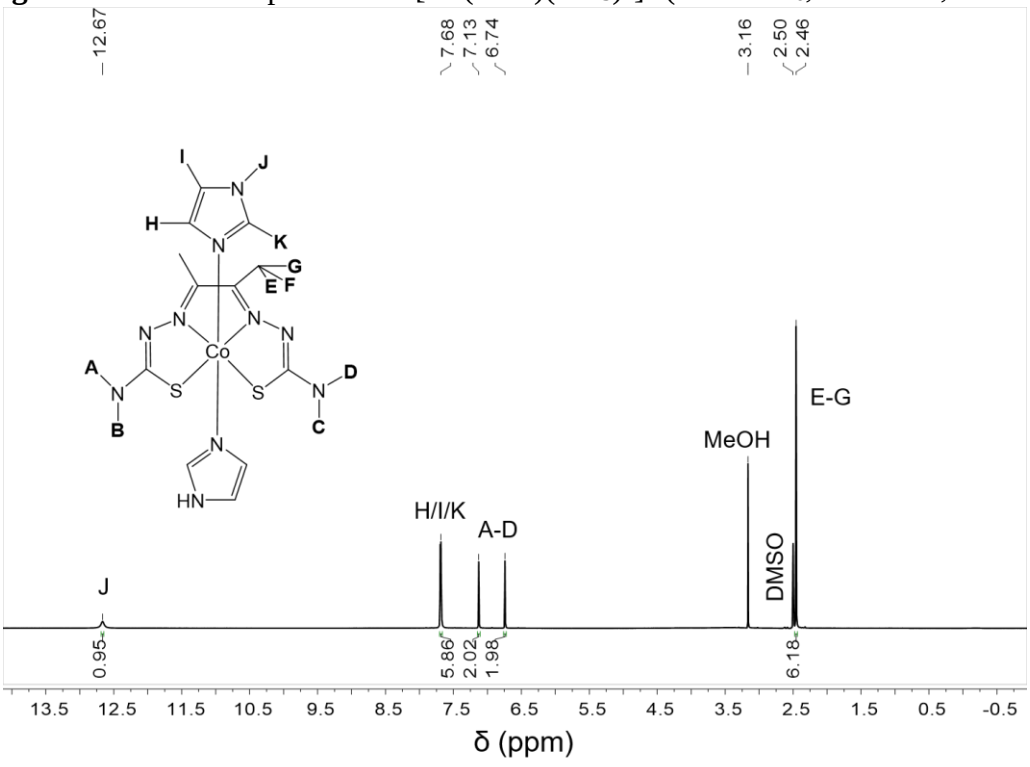

Figure S2. ^{1}H NMR spectrum of $[Co(ATS)(Im)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

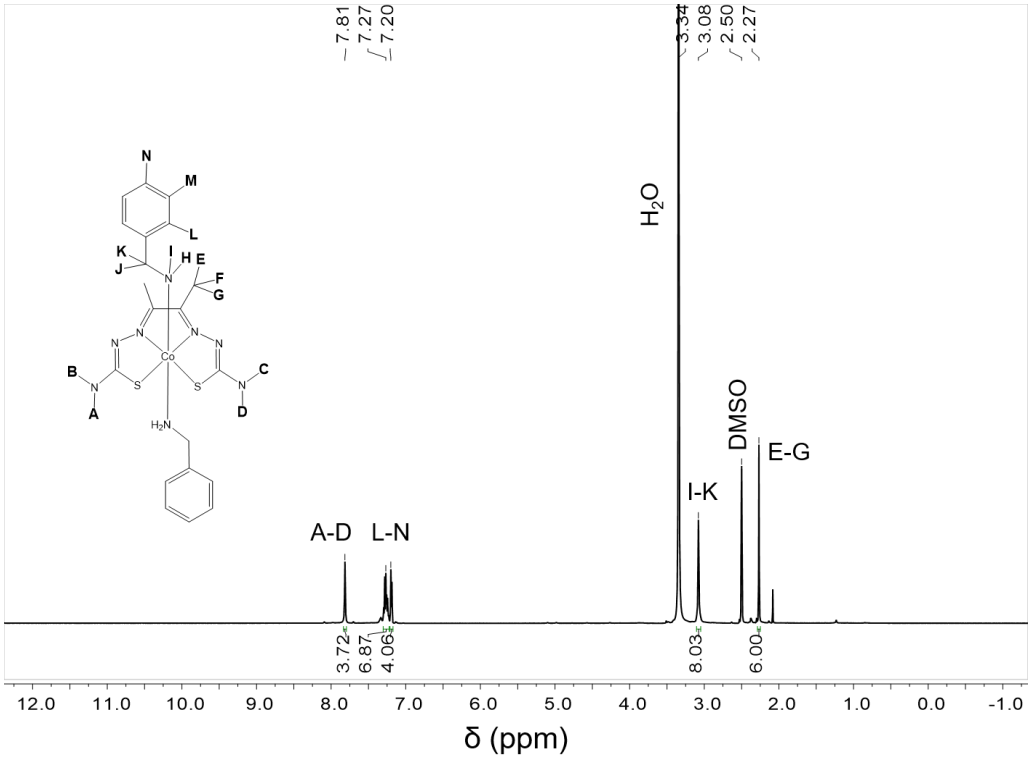

Figure S3. ^{1}H NMR spectrum of $[Co(ATS)(BnA)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

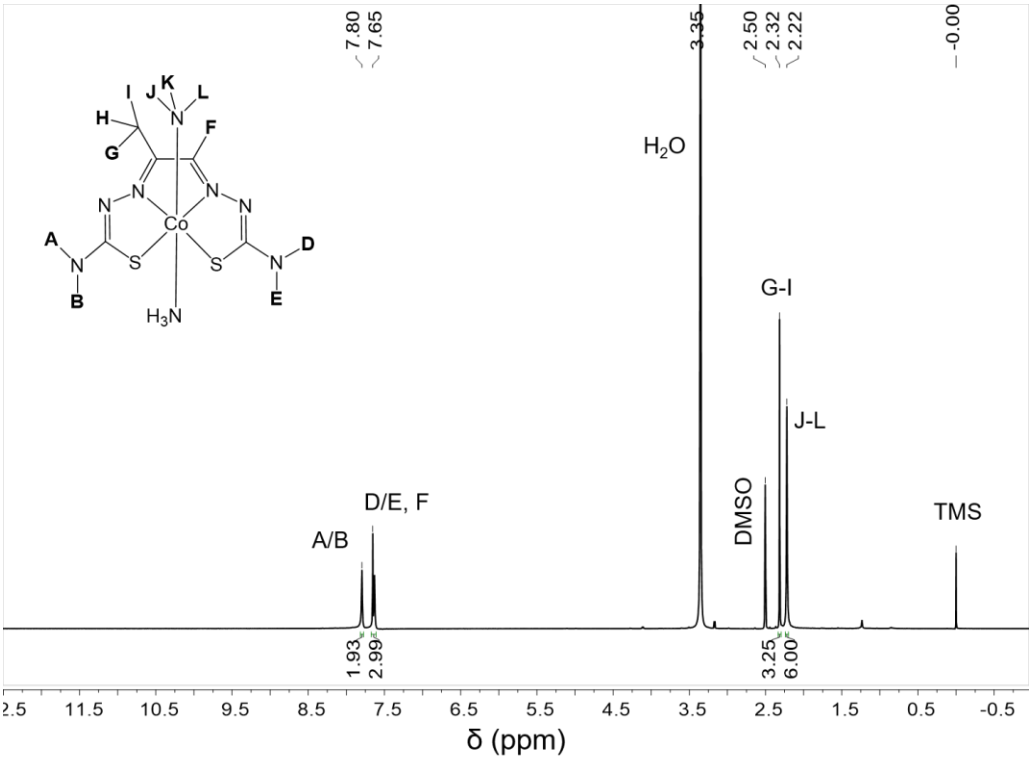

Figure S4. ^{1}H NMR spectrum of $[Co(PTS)(NH_3)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

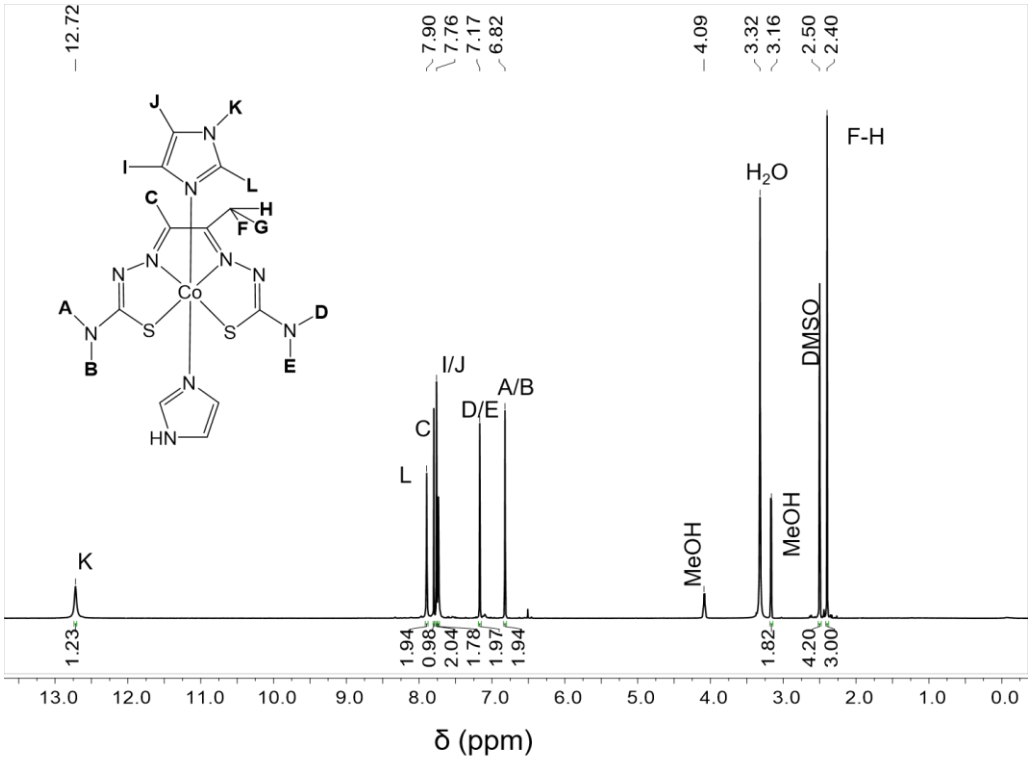

Figure S5. ^{1}H NMR spectrum of $[Co(PTS)(Im)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

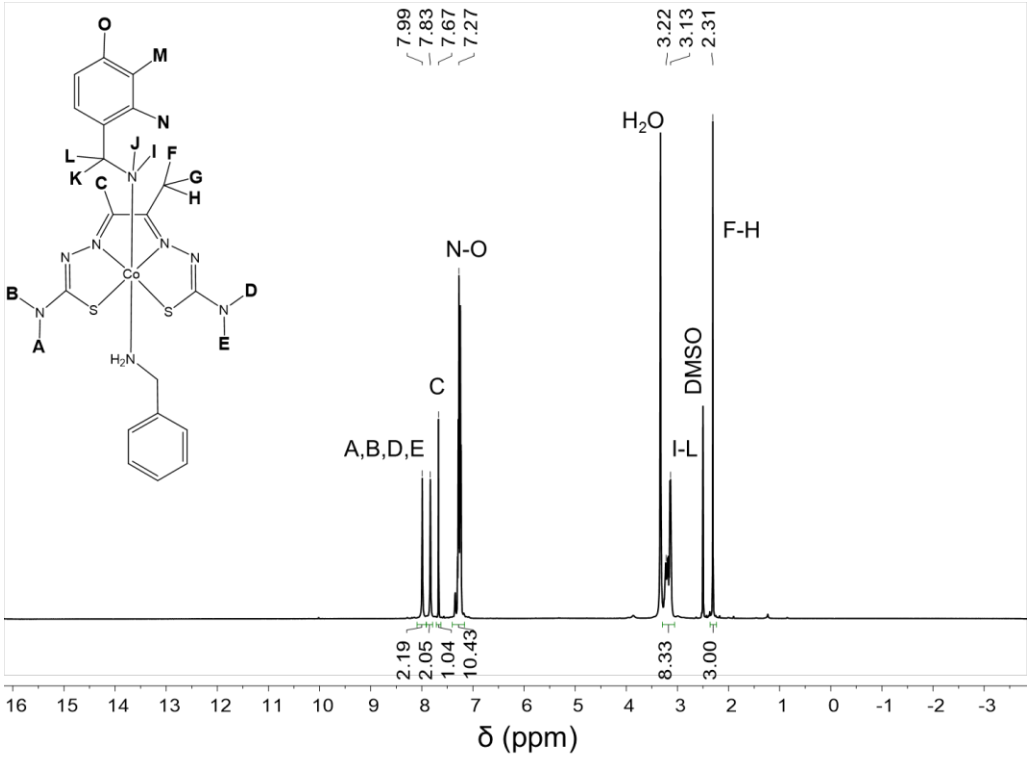

Figure S6. ^{1}H NMR spectrum of $[Co(PTS)(BnA)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

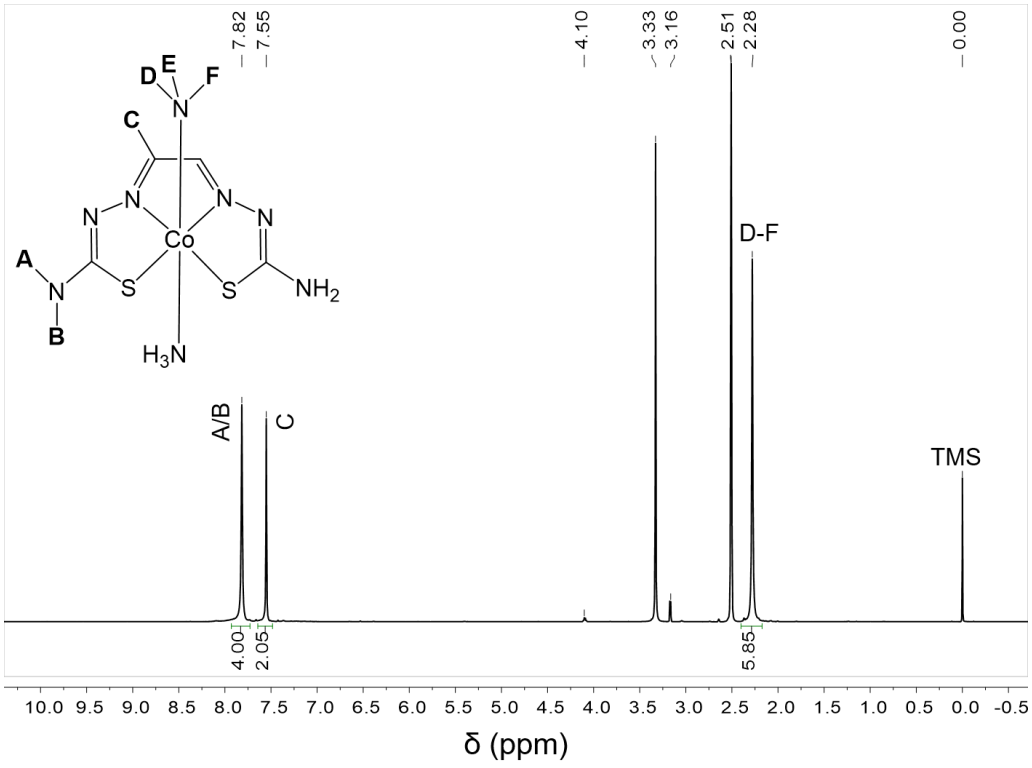

Figure S7. ^{1}H NMR spectrum of $[Co(GTS)(NH_3)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

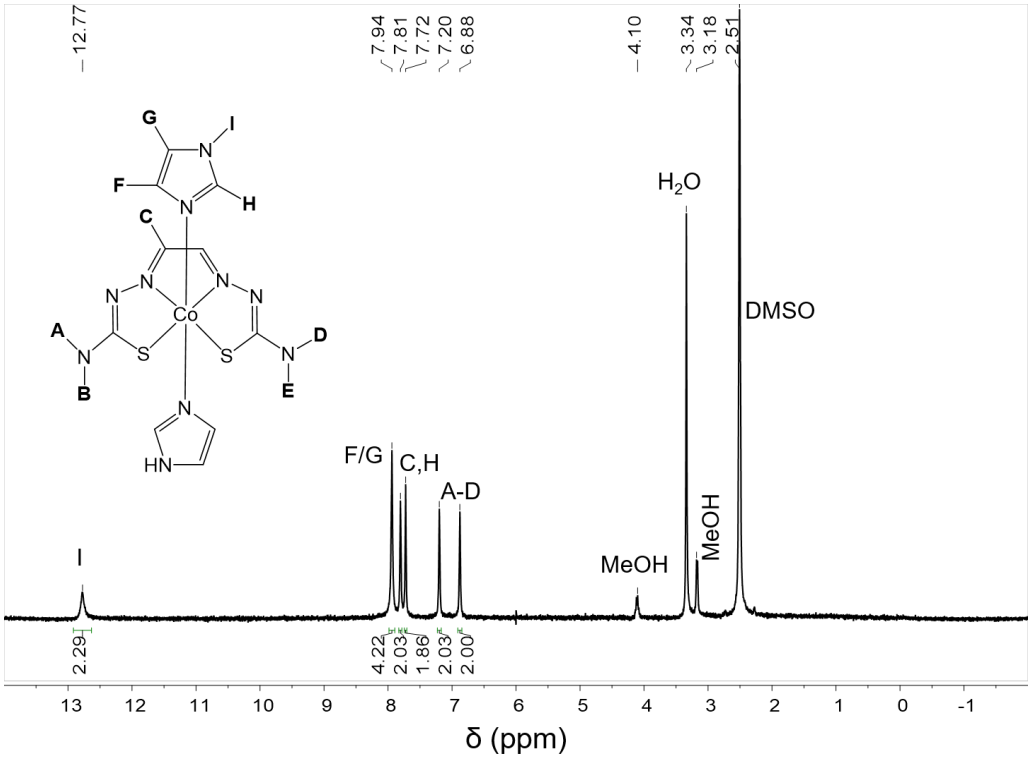

Figure S8. ^{1}H NMR spectrum of $[Co(GTS)(Im)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

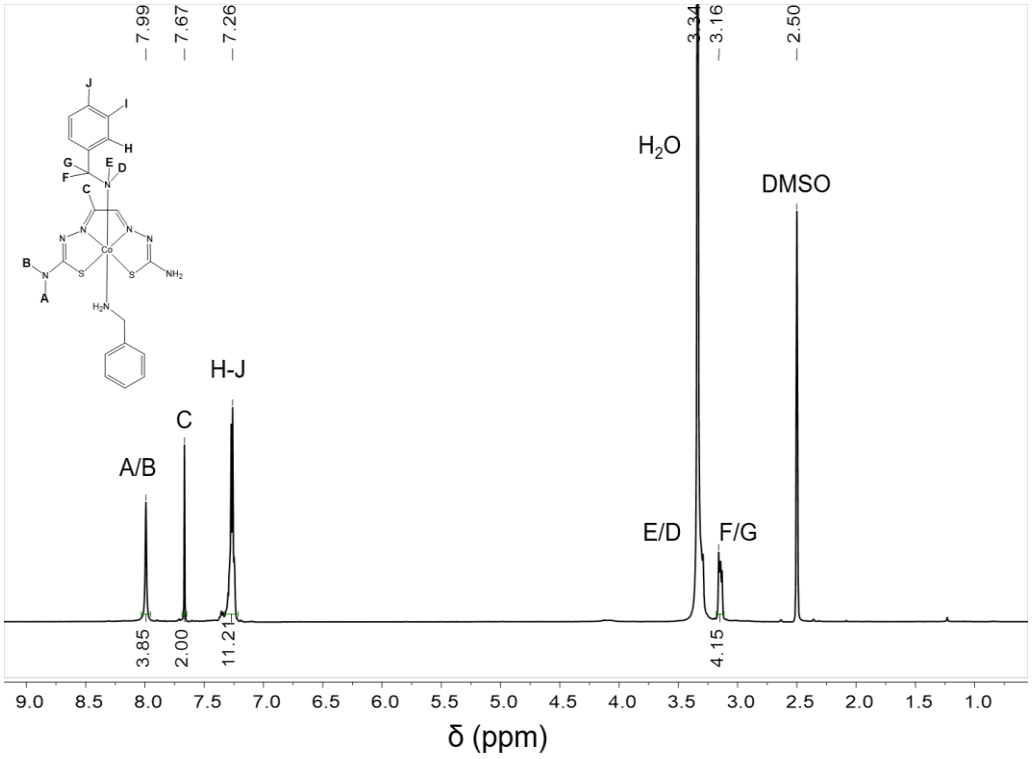

Figure S9. ^{1}H NMR spectrum of $[Co(GTS)(BnA)_2]^+$ (DMSO-d_6 500 MHz, 298 K)

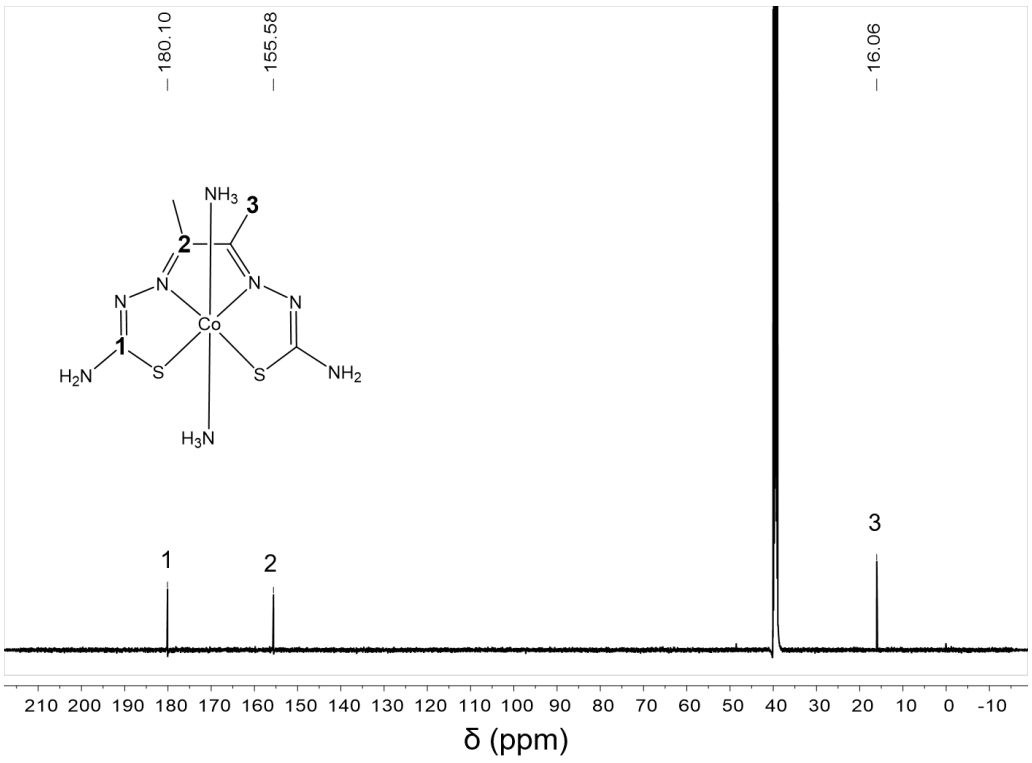

Figure S10. ^{13}C{^{1}H} NMR spectrum of $[Co(ATS)(NH_3)_2]^+$ (DMSO-d_6, 125 MHz, 298 K)

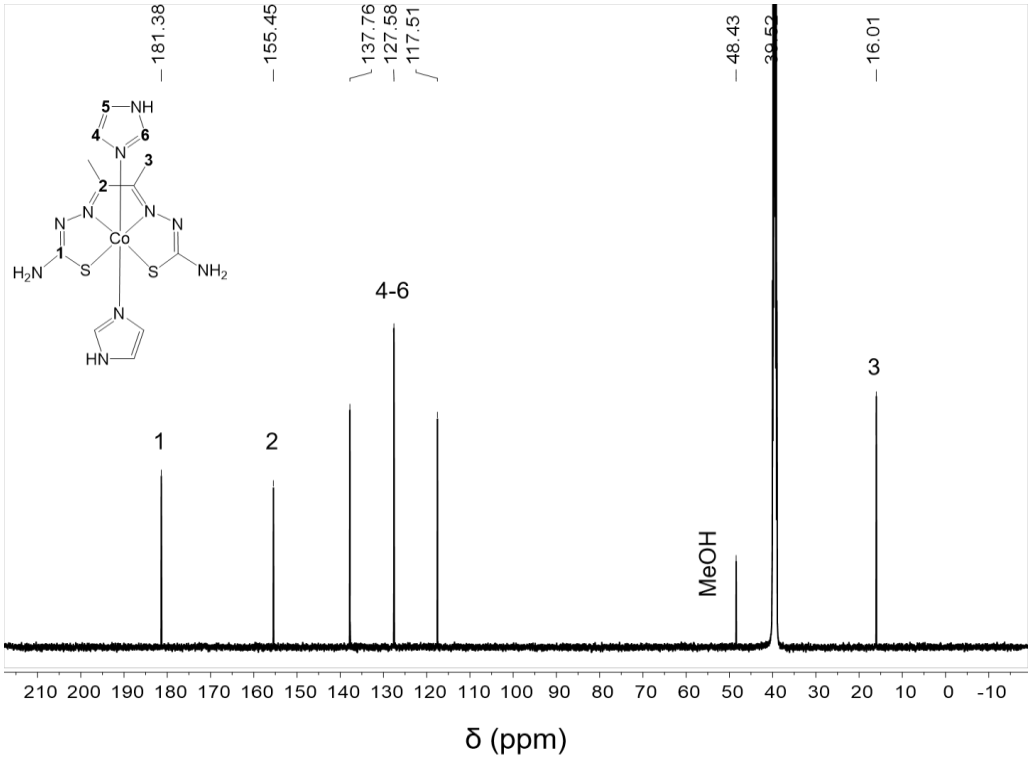

Figure S11. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(ATS)(Im)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

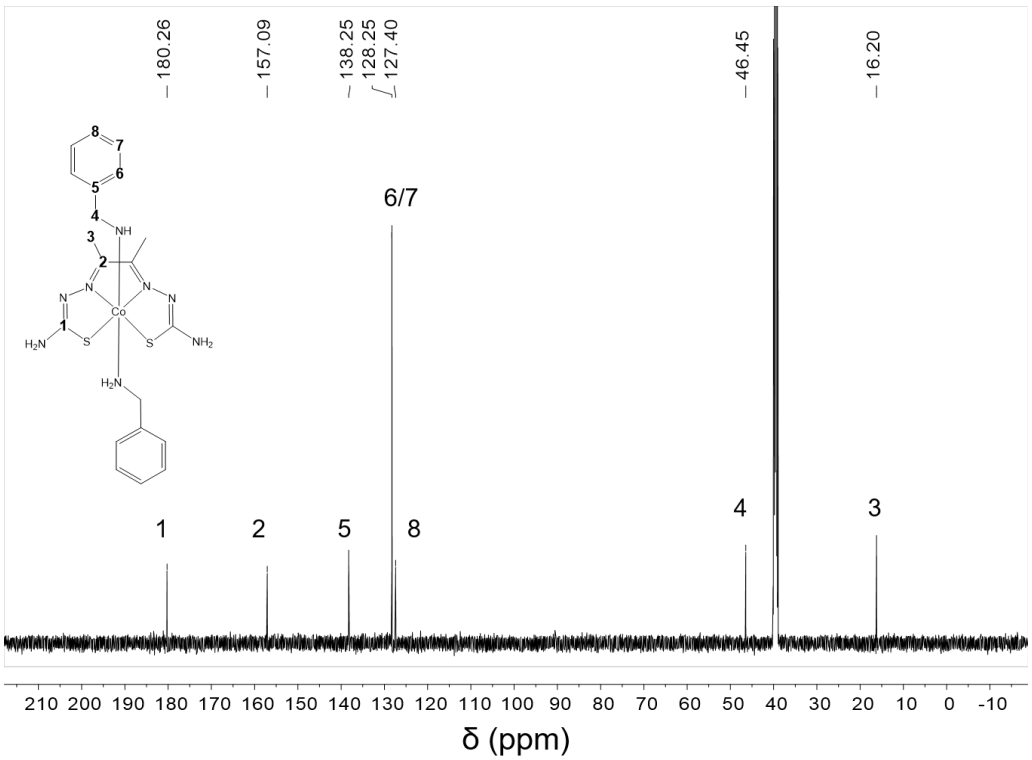

Figure S12. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(ATS)(BnA)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

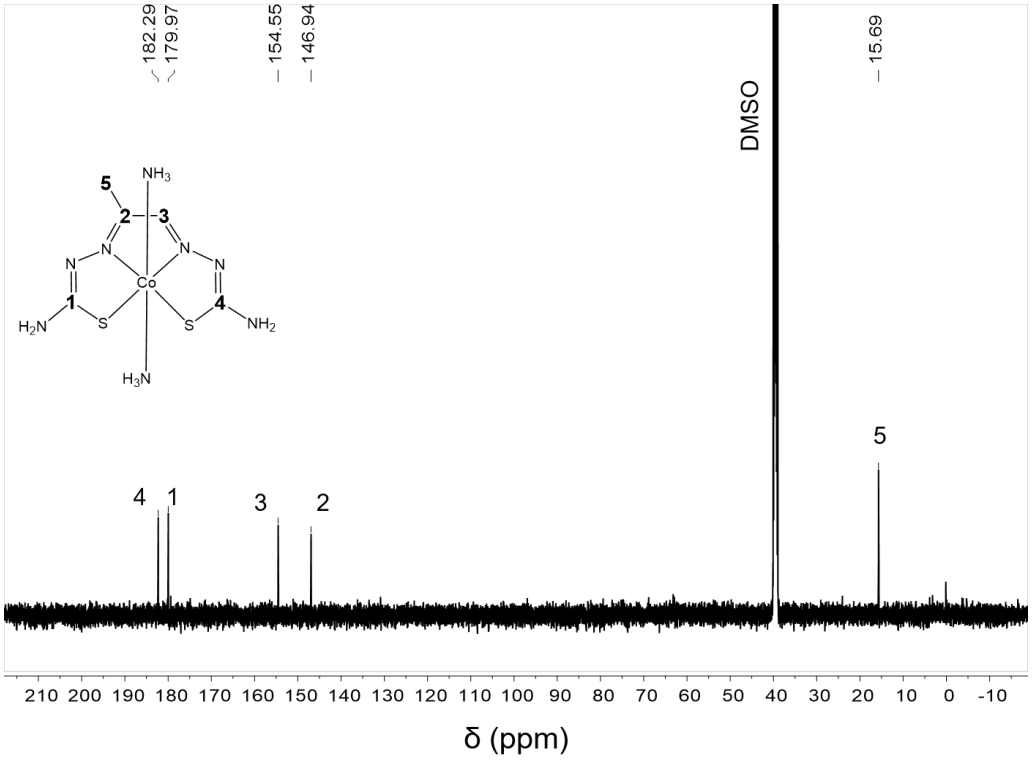

Figure S13. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(PTS)(NH_3)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

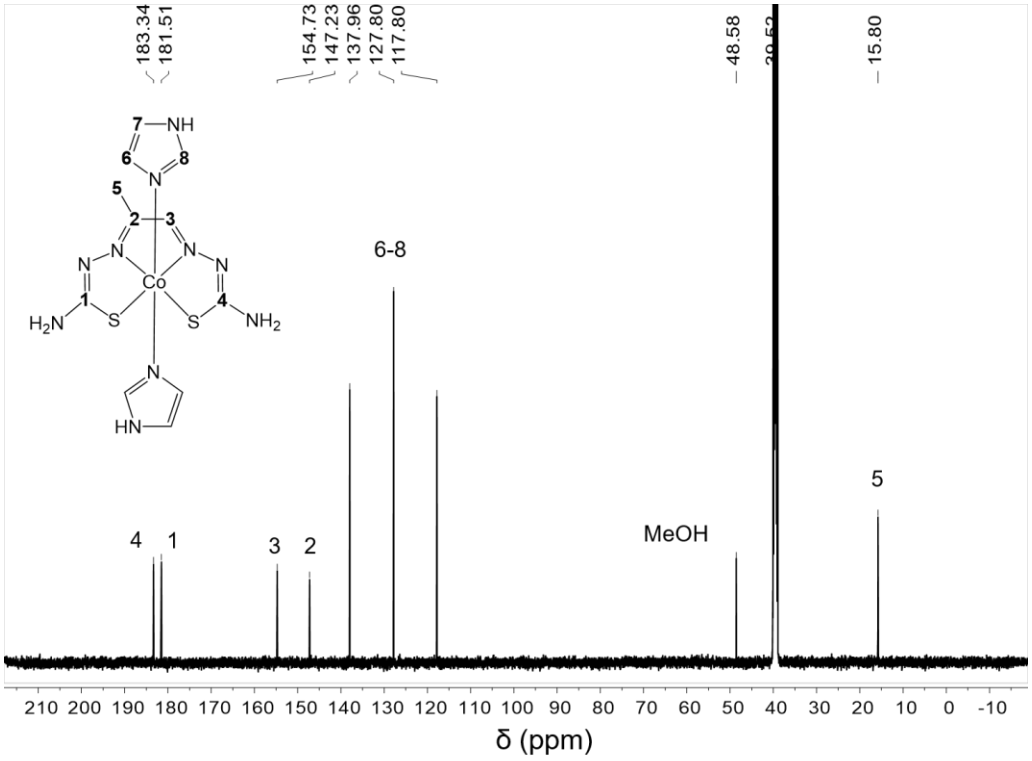

Figure S14. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(PTS)(Im)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

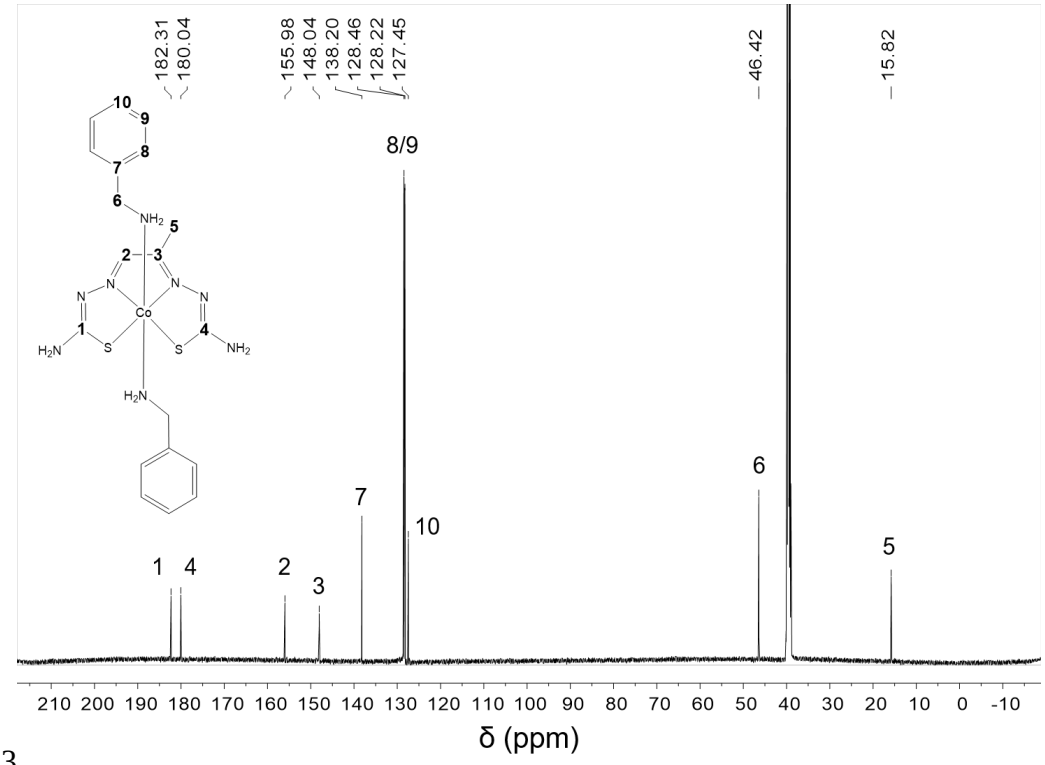

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Figure S15. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(PTS)(BnA)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

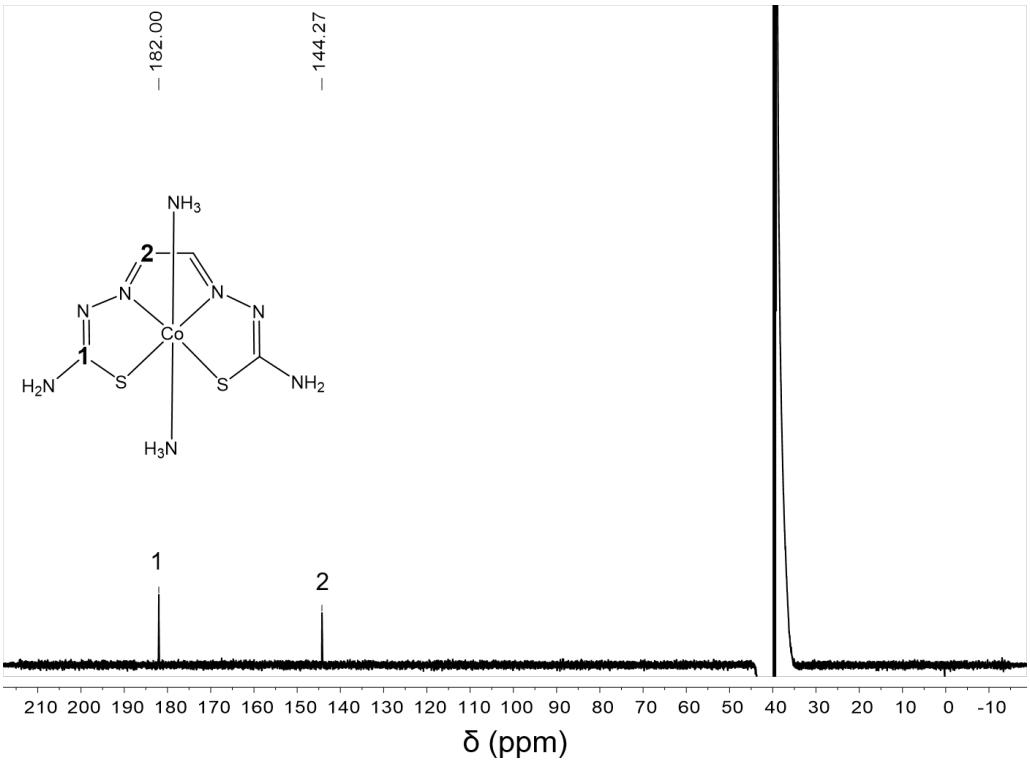

Figure S16. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(GTS)(NH_3)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

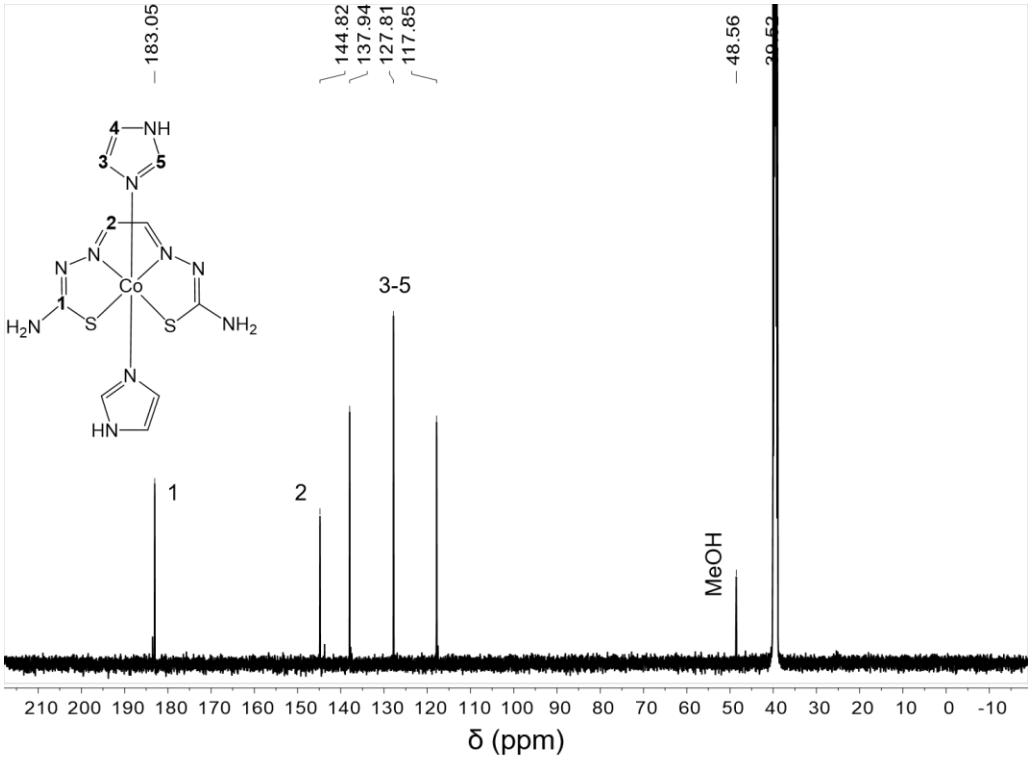

Figure S17. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(GTS)(Im)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

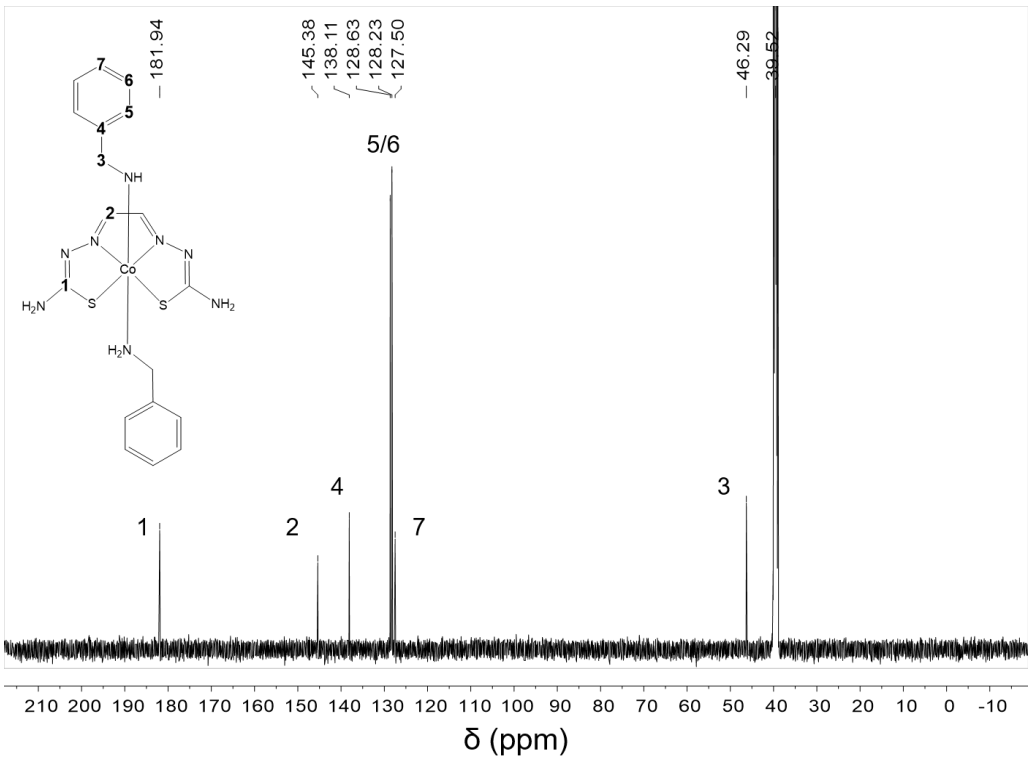

Figure S18. $^{13}C\{^{1}H\}$ NMR spectrum of $[Co(GTS)(BnA)_2]^+$ (DMSO-d_6 125 MHz, 298 K)

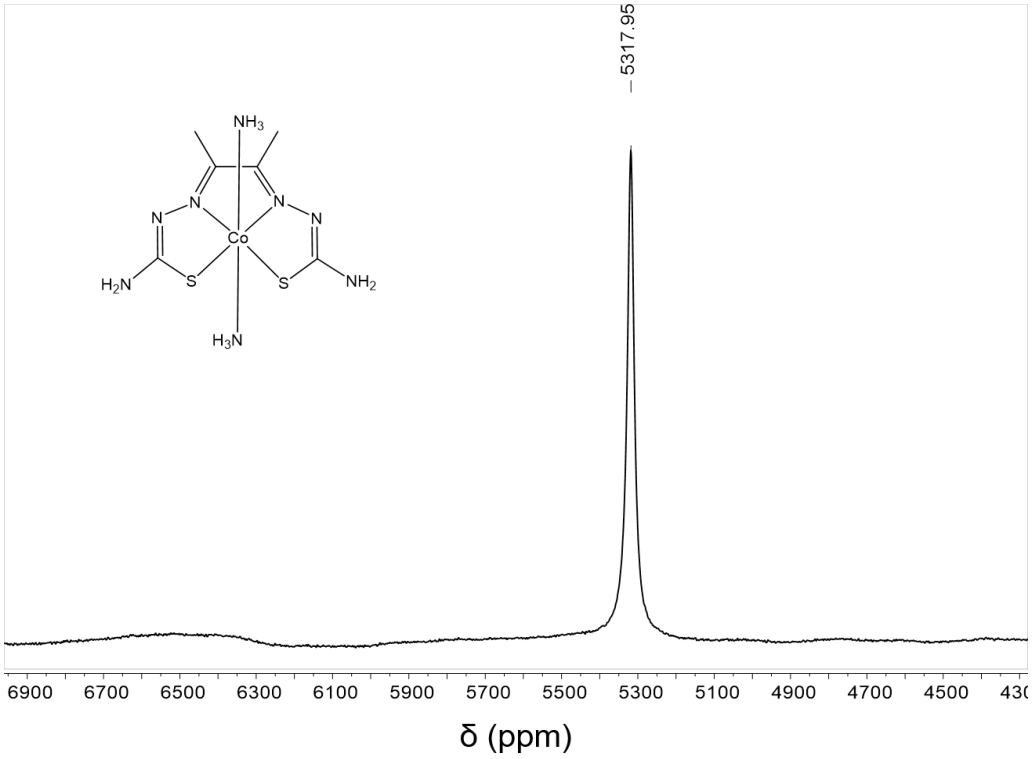

Figure S19. ^{59}Co NMR spectrum of $[Co(ATS)(NH_3)_2]^+$ (DMSO-d_6, 119 MHz, 298 K)

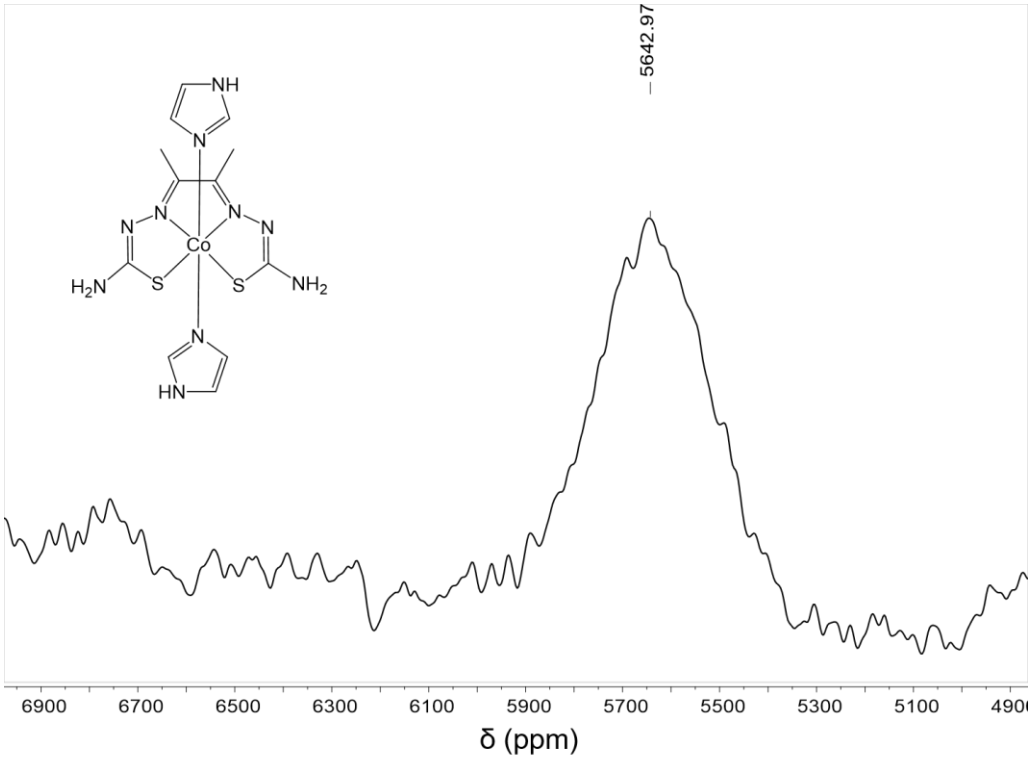

Figure S20. ^{59}Co NMR spectrum of $[Co(ATS)(Im)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

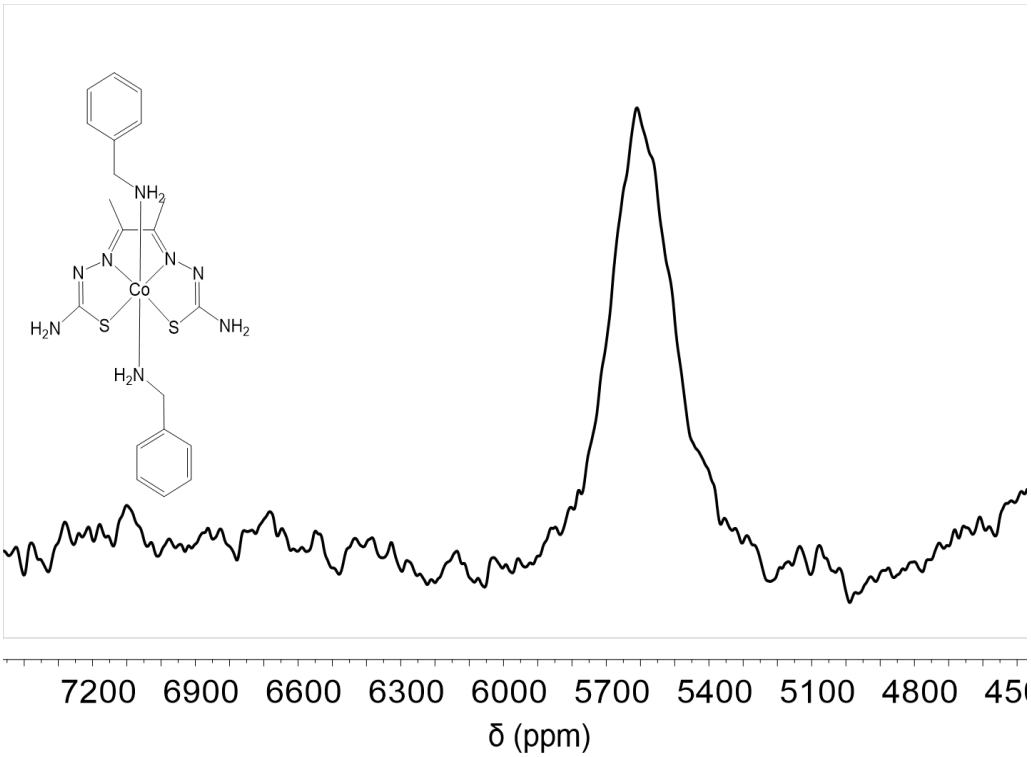

Figure S21. ^{59}Co NMR spectrum of $[Co(ATS)(BnA)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

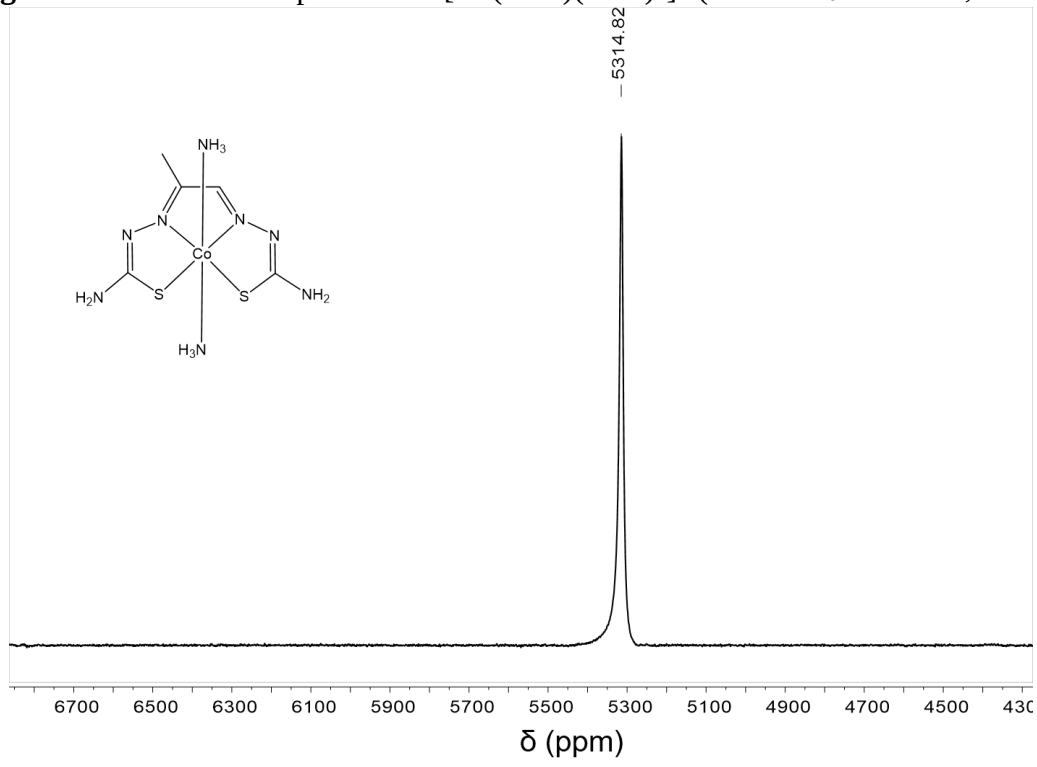

Figure S22. ^{59}Co NMR spectrum of $[Co(PTS)(NH_3)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

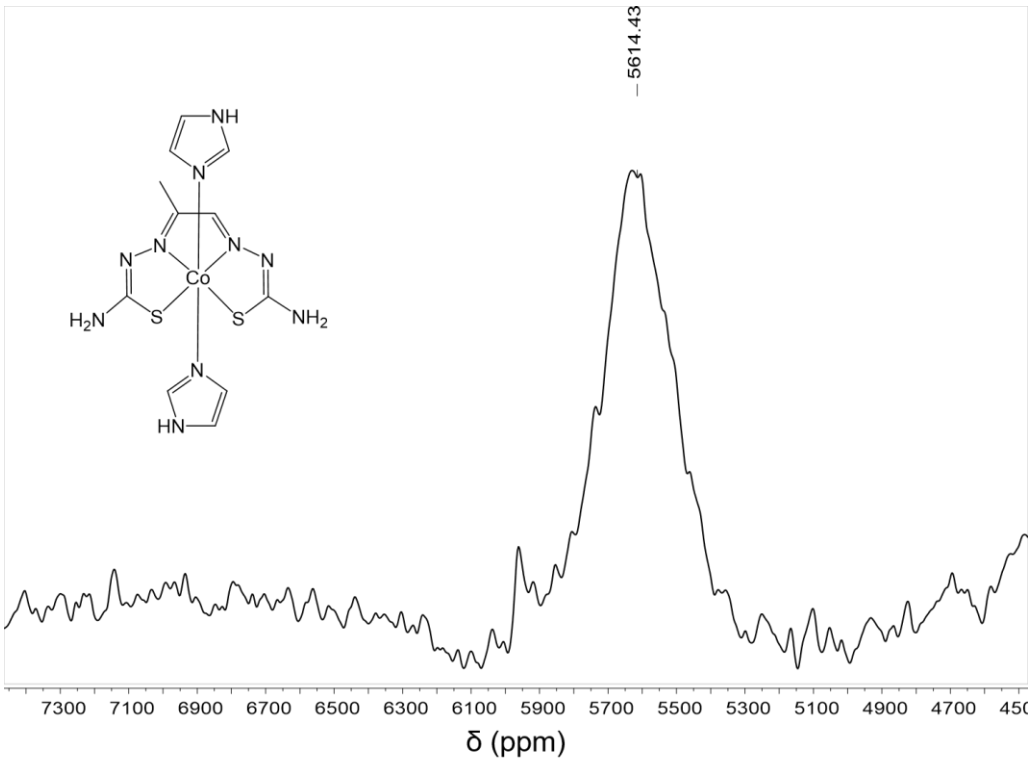

Figure S23. ^{59}Co NMR spectrum of $[Co(PTS)(Im)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

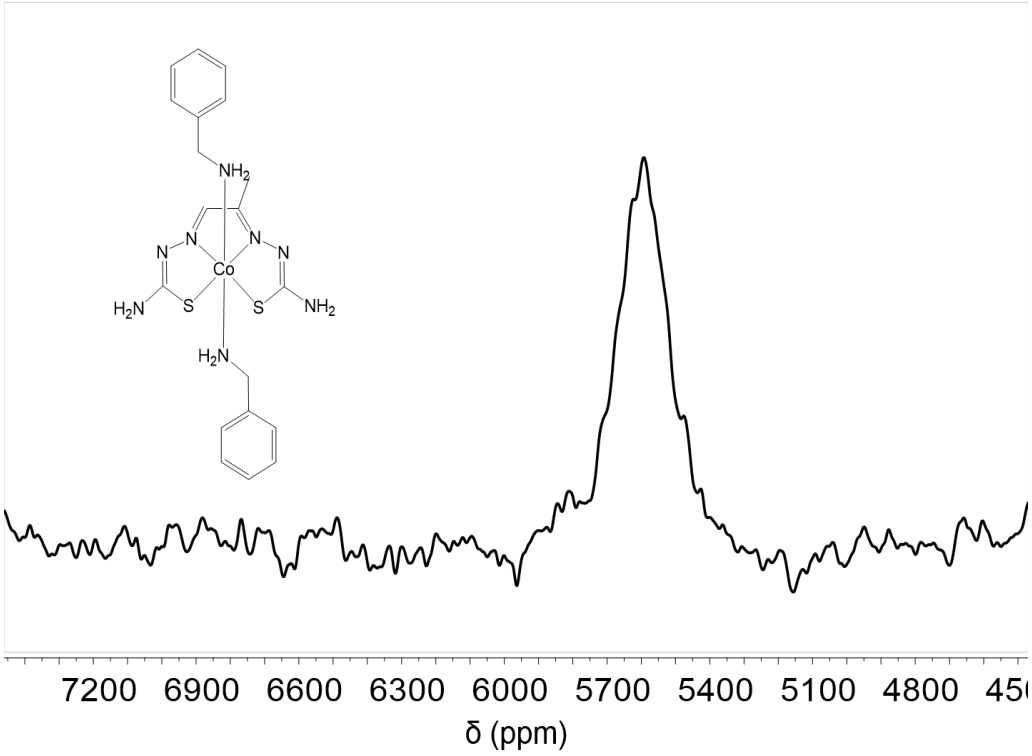

Figure S24. ^{59}Co NMR spectrum of $[Co(PTS)(BnA)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

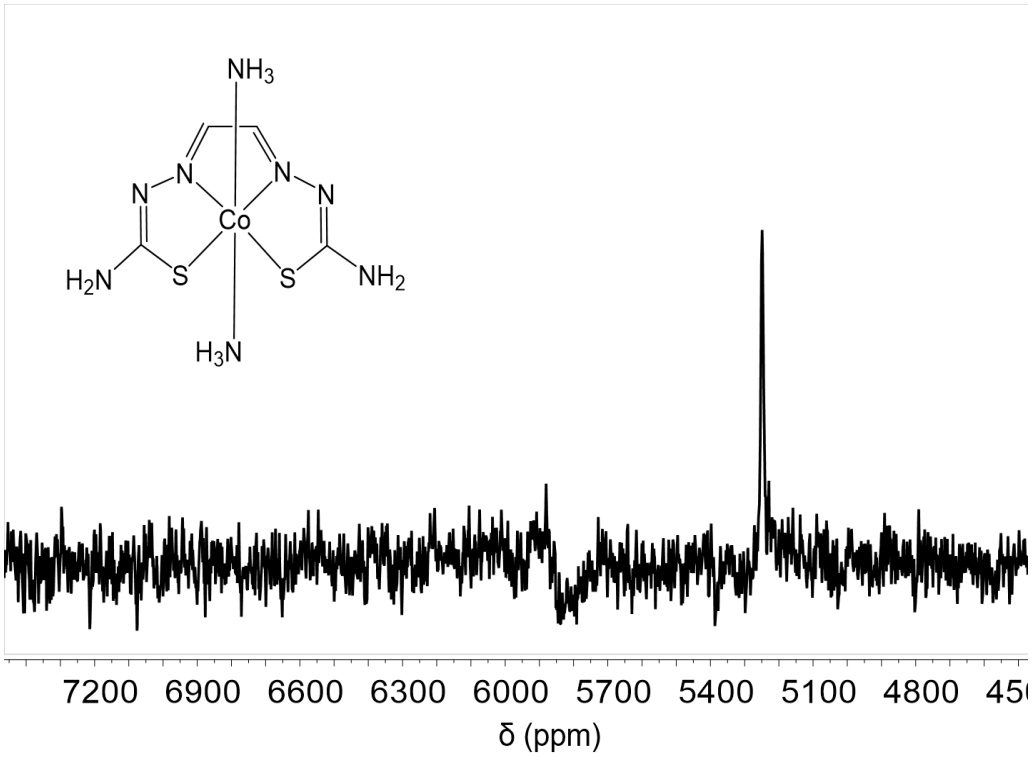

Figure S25. ^{59}Co NMR spectrum of $[Co(GTS)(NH_3)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

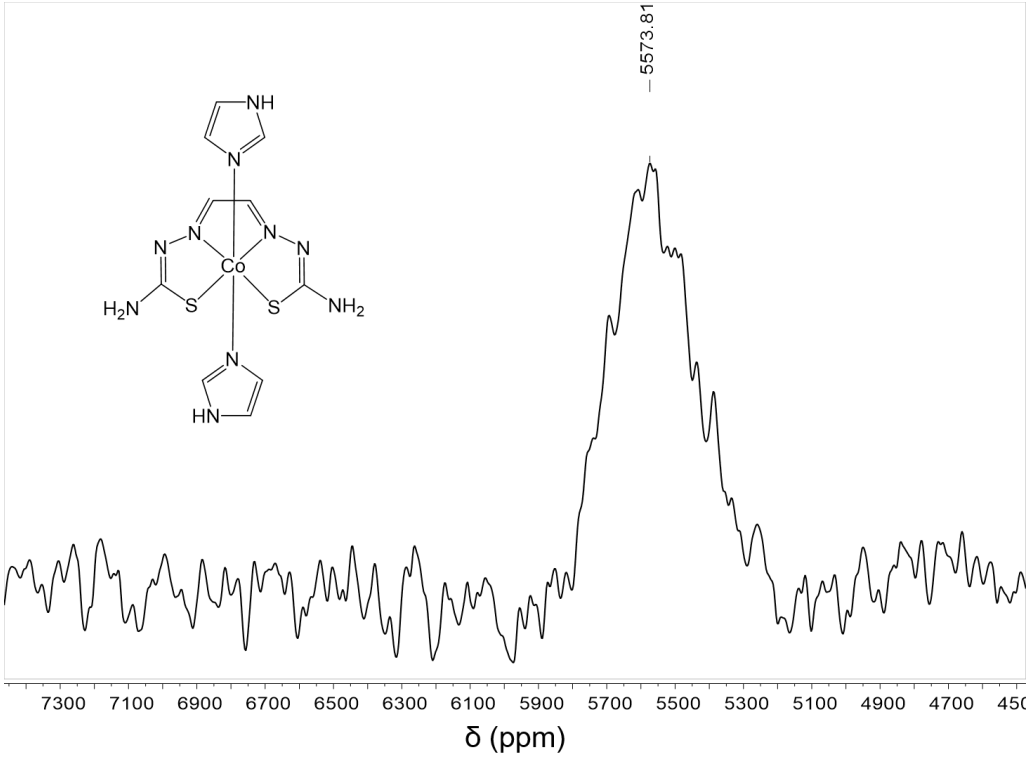

Figure S26. ^{59}Co NMR spectrum of $[Co(GTS)(Im)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

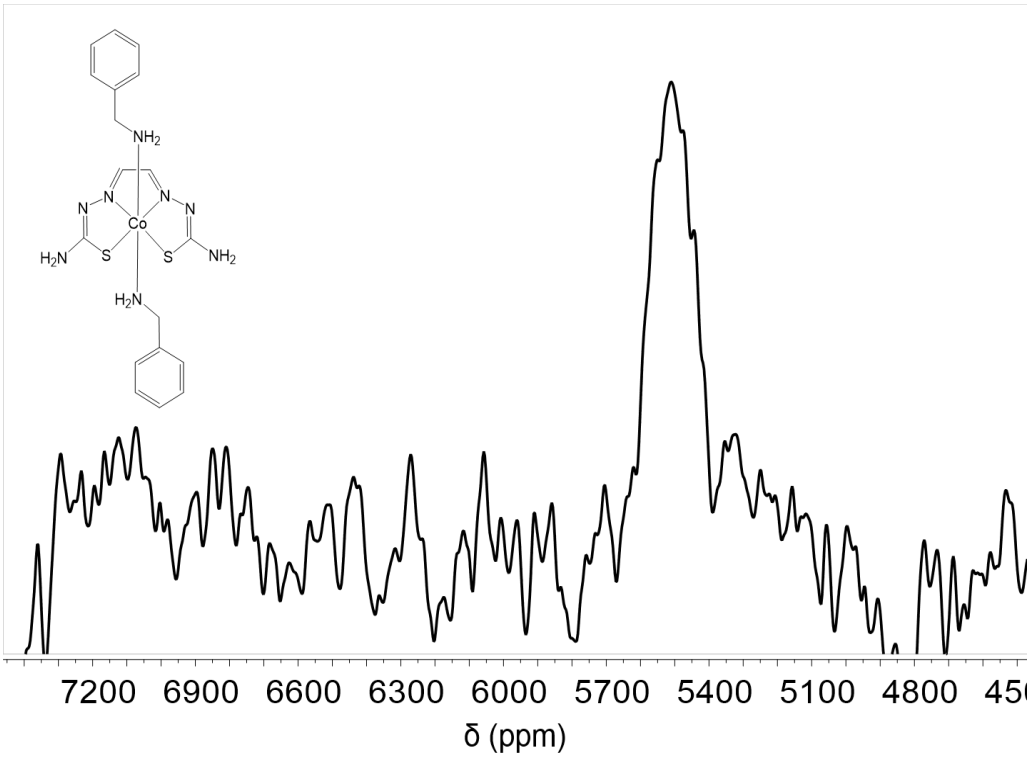

Figure S27. ^{59}Co NMR spectrum of $[Co(GTS)(BnA)_2]^+$ (DMSO-d_6 119 MHz, 298 K)

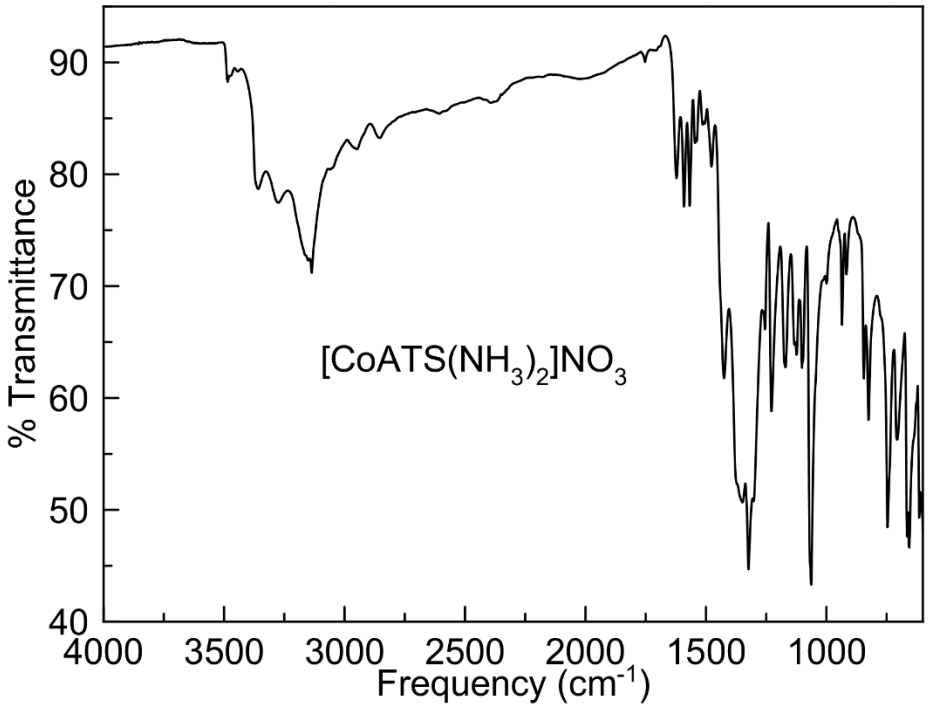

Figure S28. IR Spectrum of $[Co(ATS)(NH_3)_2](NO_3)$.

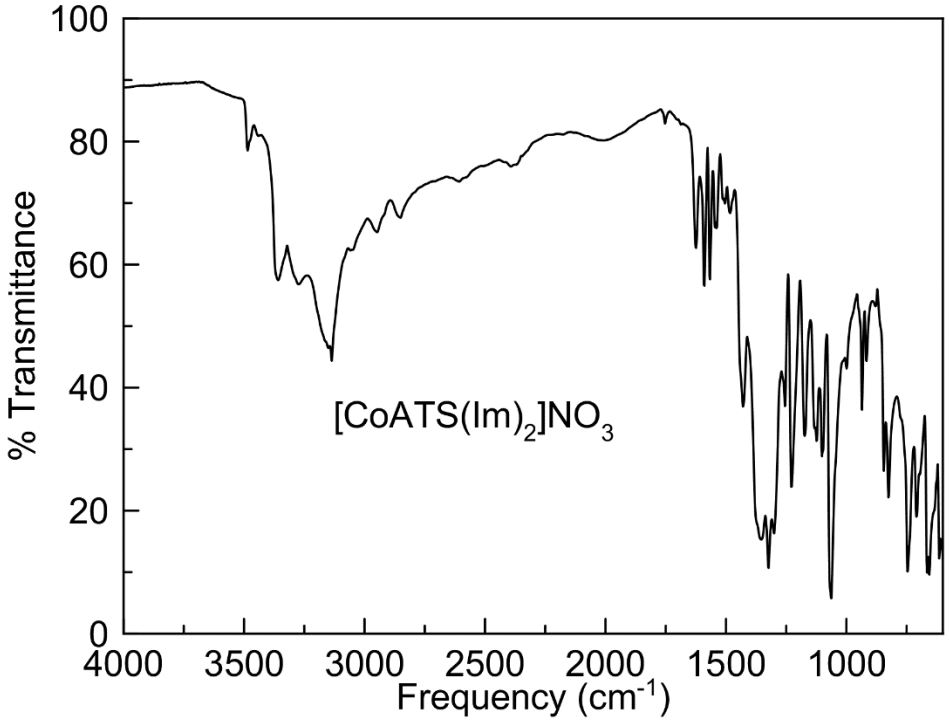

Figure S29. IR Spectrum of $[Co(ATS)(Im)_2](NO_3)$.

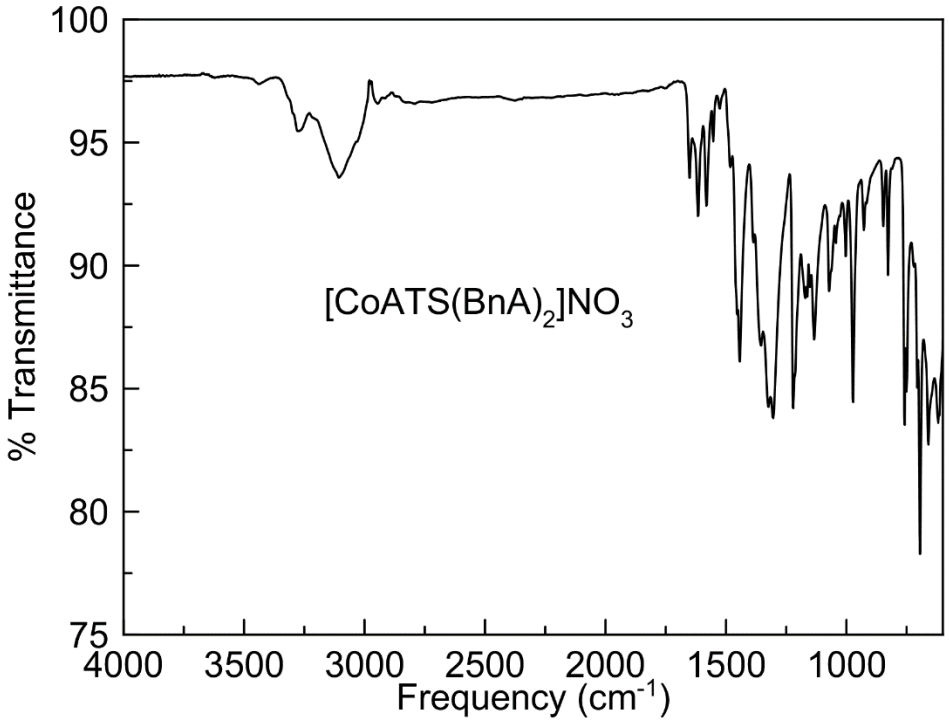

Figure S30. IR Spectrum of $[Co(ATS)(BnA_2)](NO_3)$.

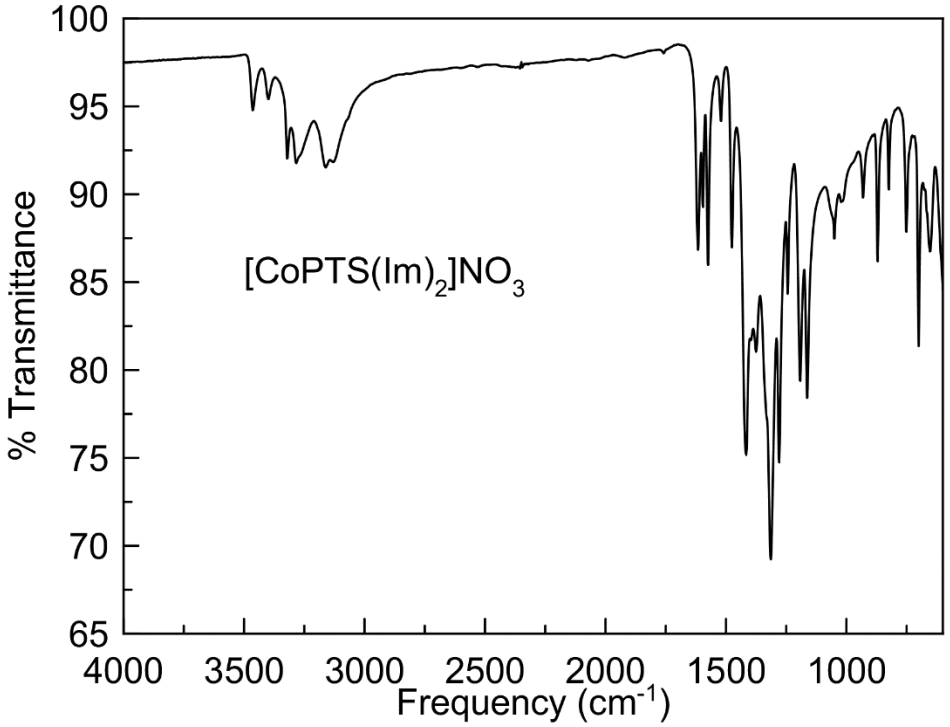

Figure S31. IR Spectrum of $[Co(PTS)(NH_3)_2](NO_3)$.

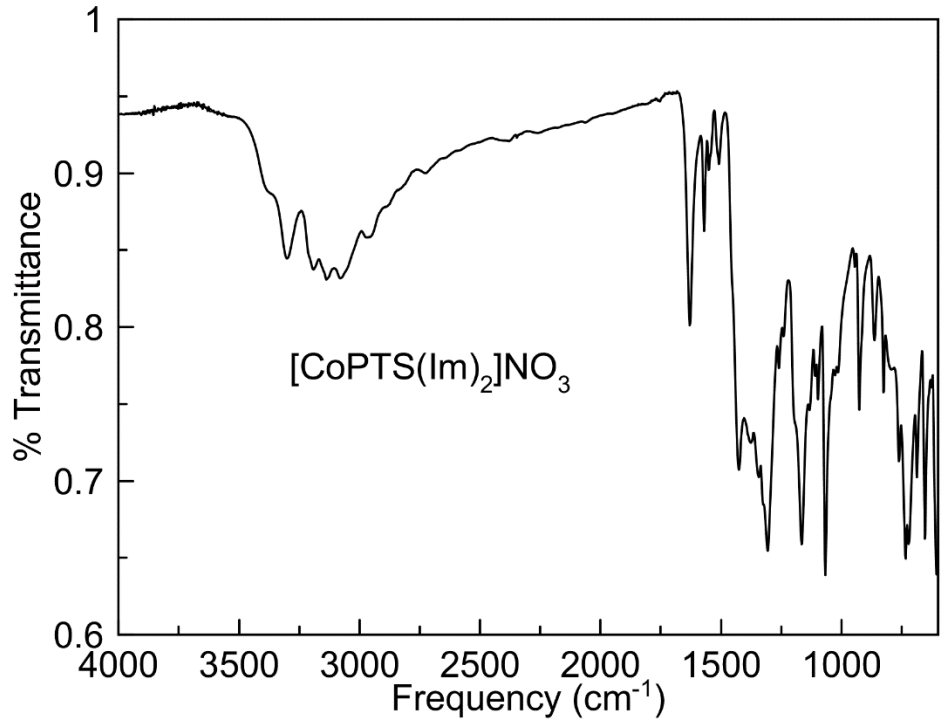

Figure S32. IR Spectrum of $[Co(PTS)(Im)_2](NO_3)$.

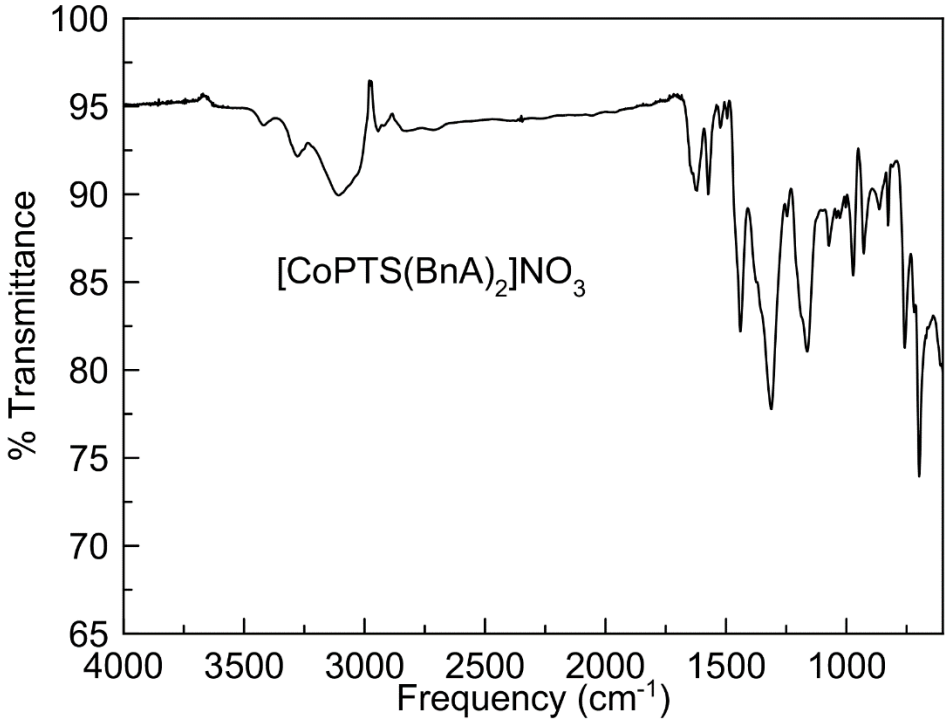

Figure S33. IR Spectrum of $[Co(PTS)(BnA)_2](NO_3)$.

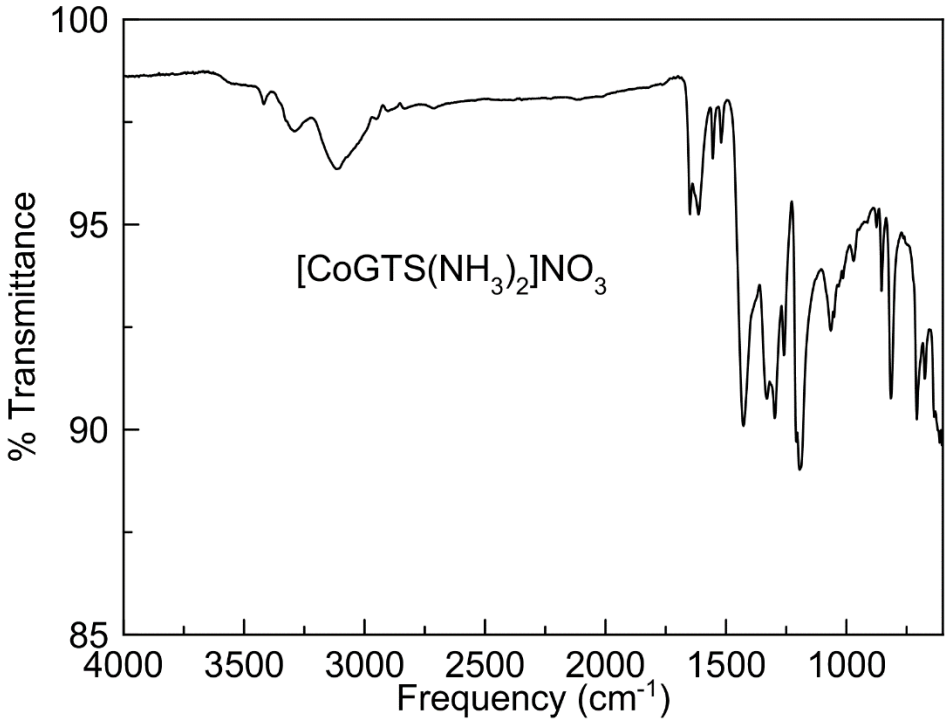

Figure S34. IR Spectrum of $[Co(GTS)(NH_3)_2](NO_3)$.

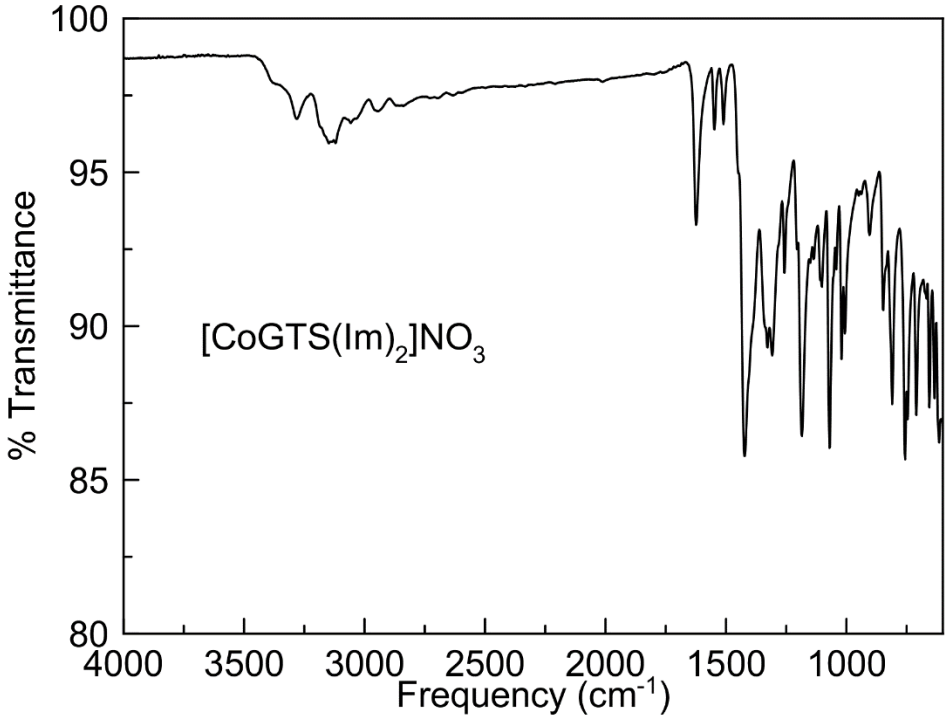

Figure S35. IR Spectrum of $[Co(GTS)(Im)_2](NO_3)$.

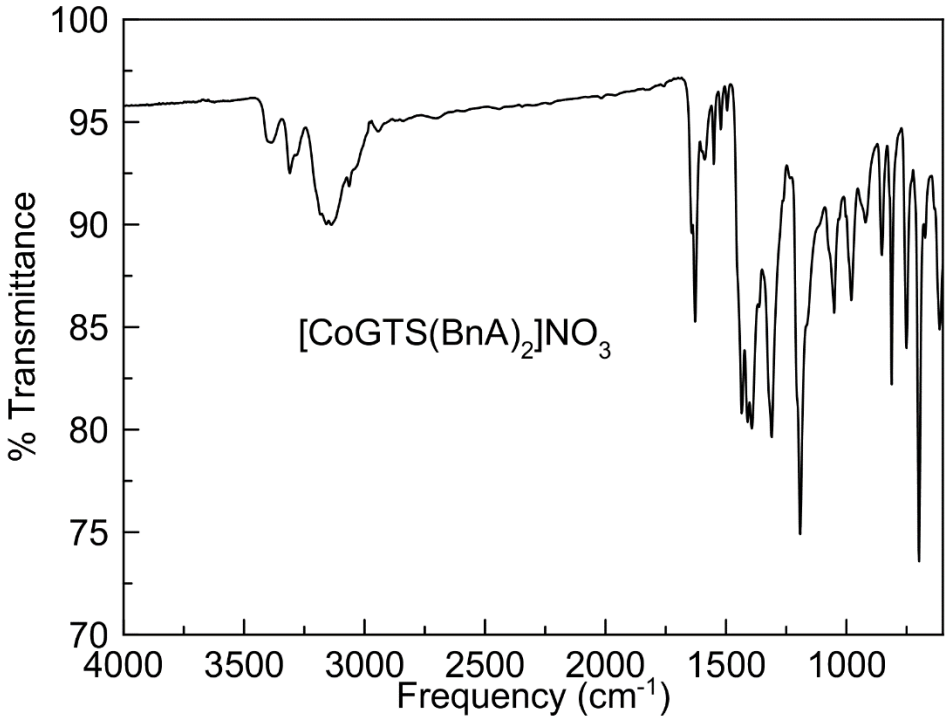

Figure S36. IR Spectrum of $[Co(GTS)(BnA)_2](NO_3)$.

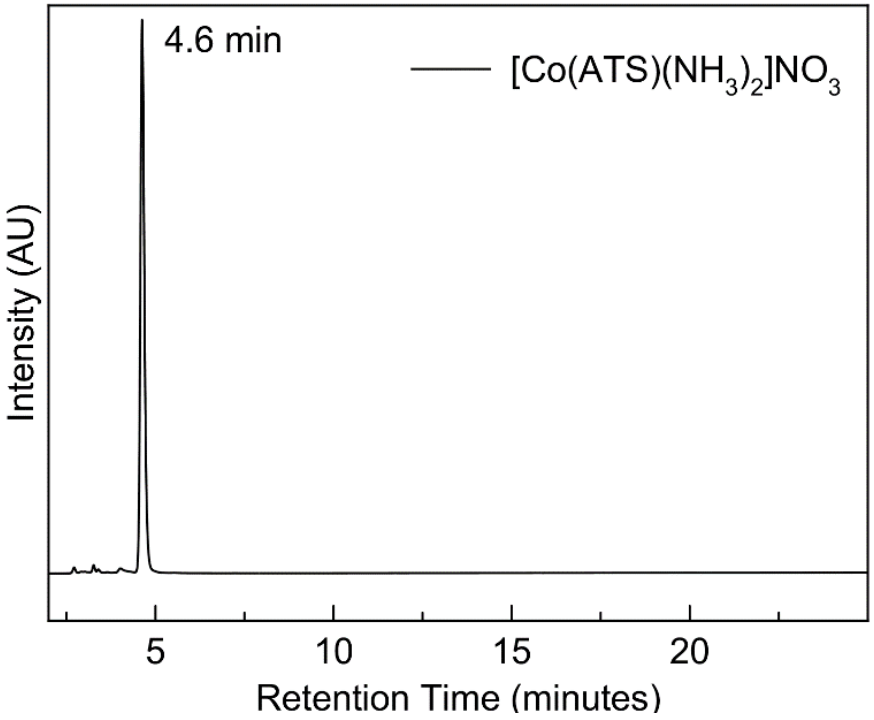

Figure S37. HPLC Chromatogram of $[Co(ATS)(NH_3)_2]^+$

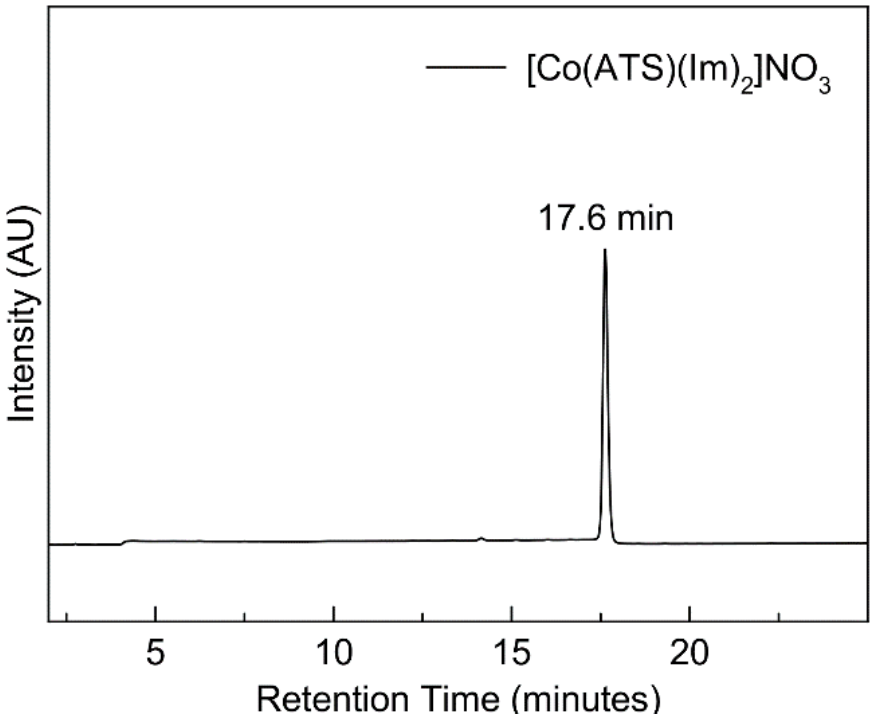

Figure S38. HPLC Chromatogram of $[Co(ATS)(Im)_2]^+$

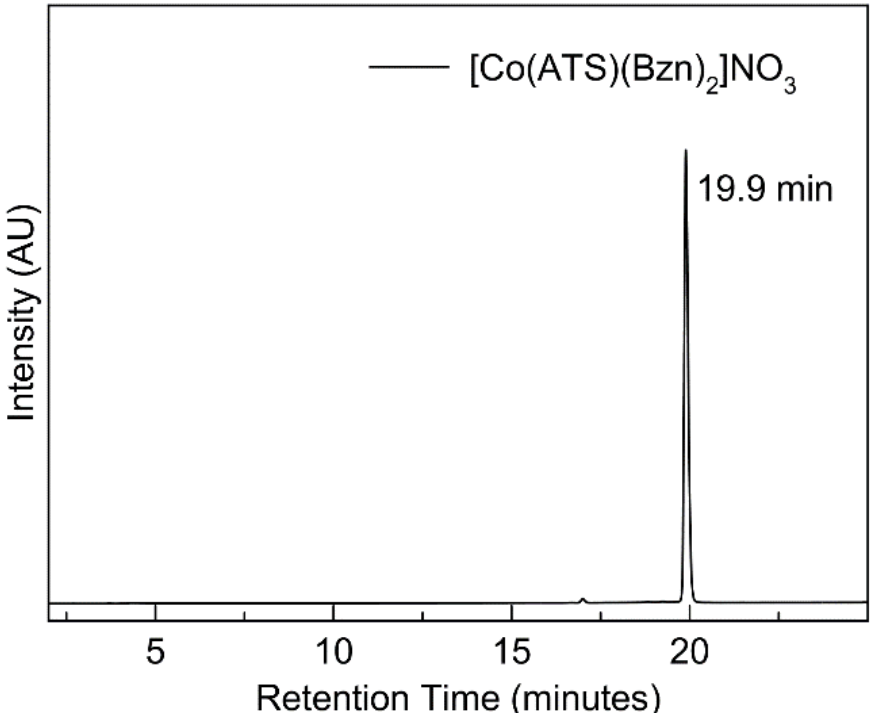

Figure S39. HPLC Chromatogram of $[Co(ATS)(BnA)_2]^+$

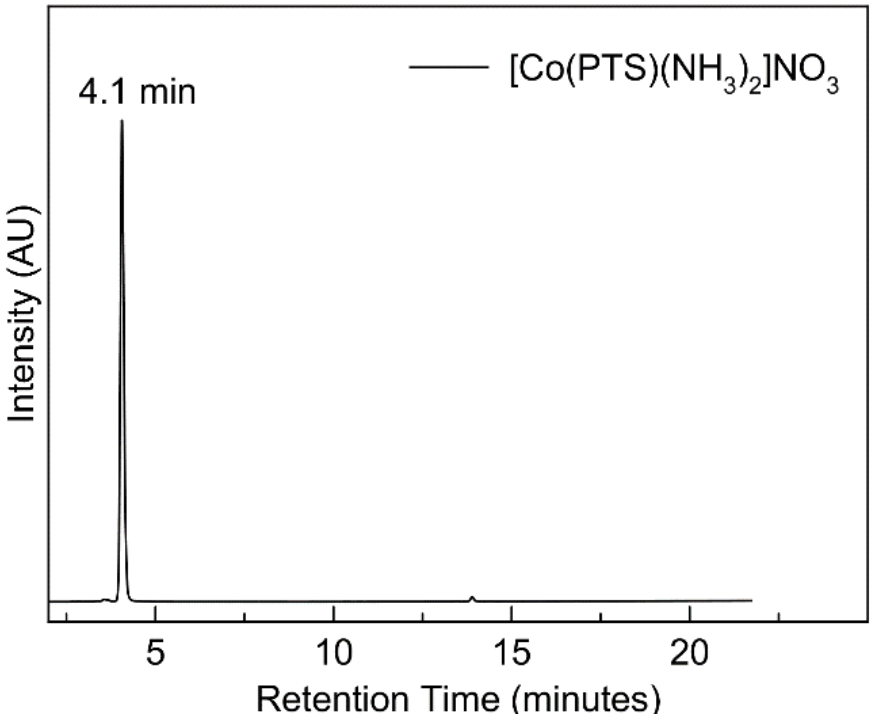

Figure S40. HPLC Chromatogram of $[Co(PTS)(NH_3)_2]^+$

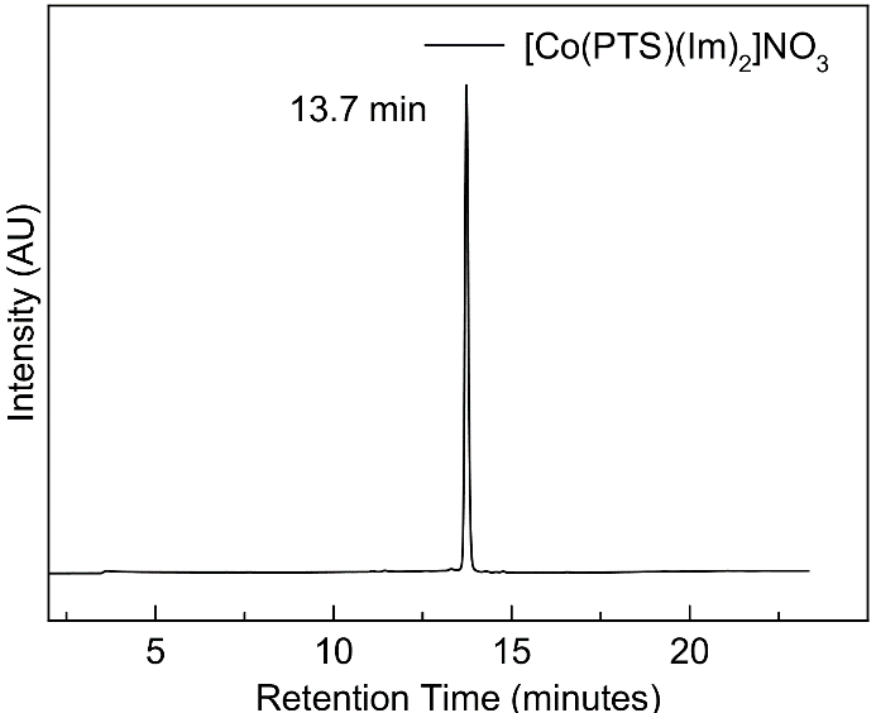

Figure S41. HPLC Chromatogram of $[Co(PTS)(Im)_2]^+$

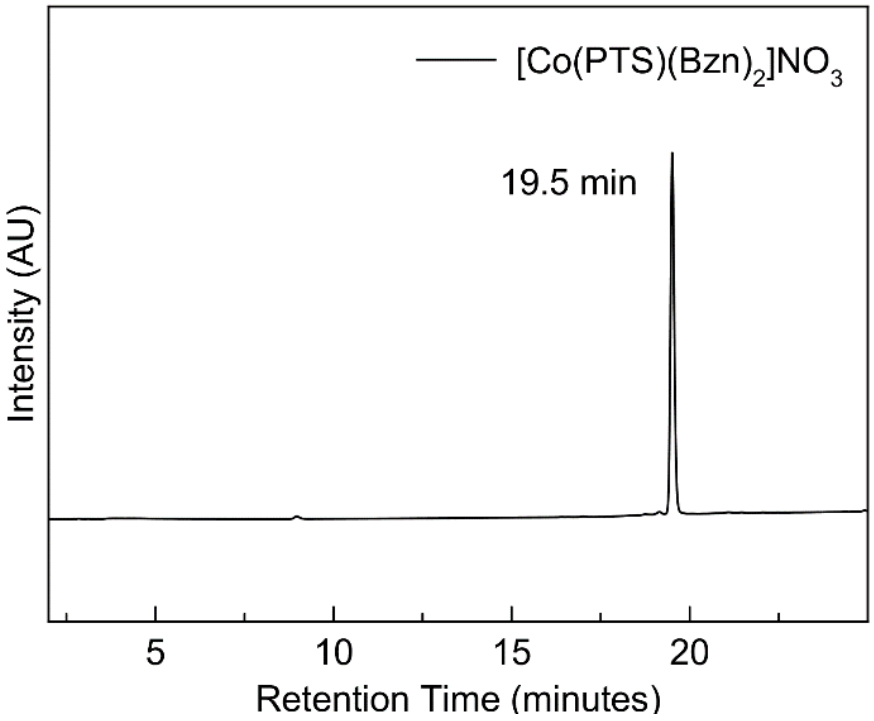

Figure S42. HPLC Chromatogram of $[Co(PTS)(BnA)_2]^+$

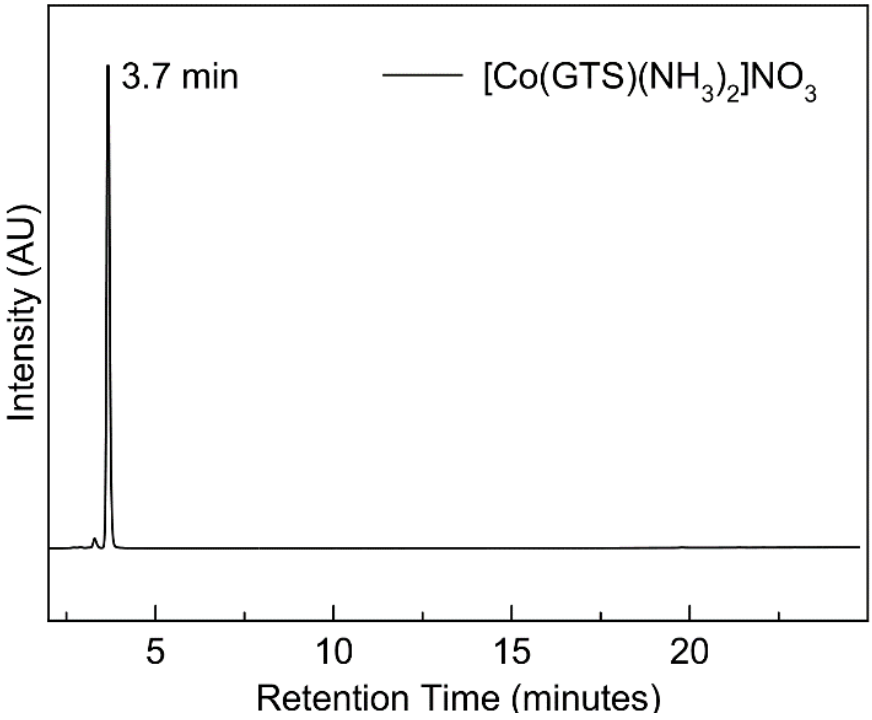

Figure S43. HPLC Chromatogram of $[Co(GTS)(NH_3)_2]^+$

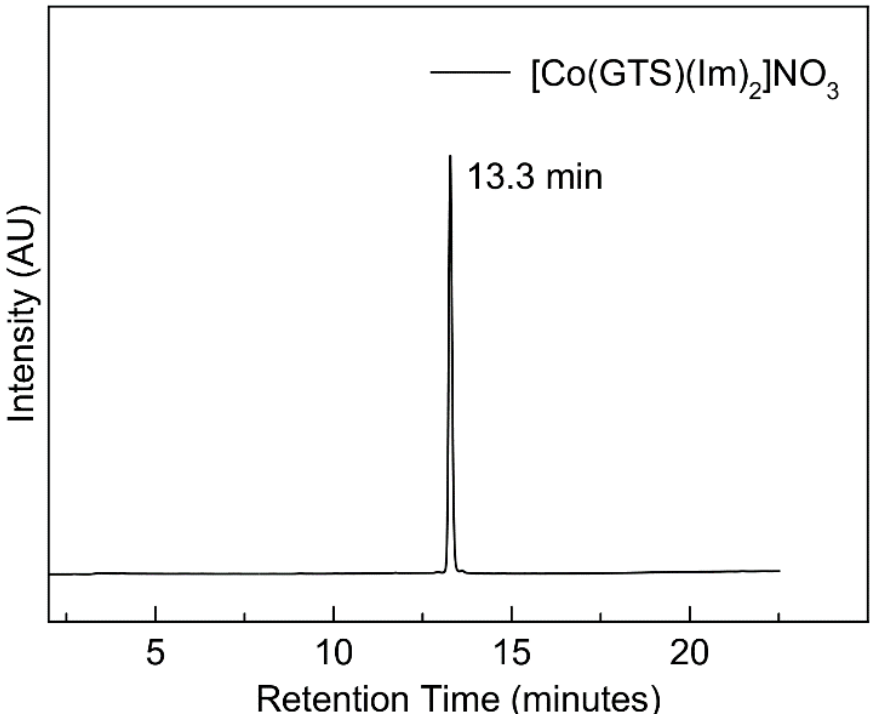

Figure S44. HPLC Chromatogram of $[Co(GTS)(Im)_2]^+$

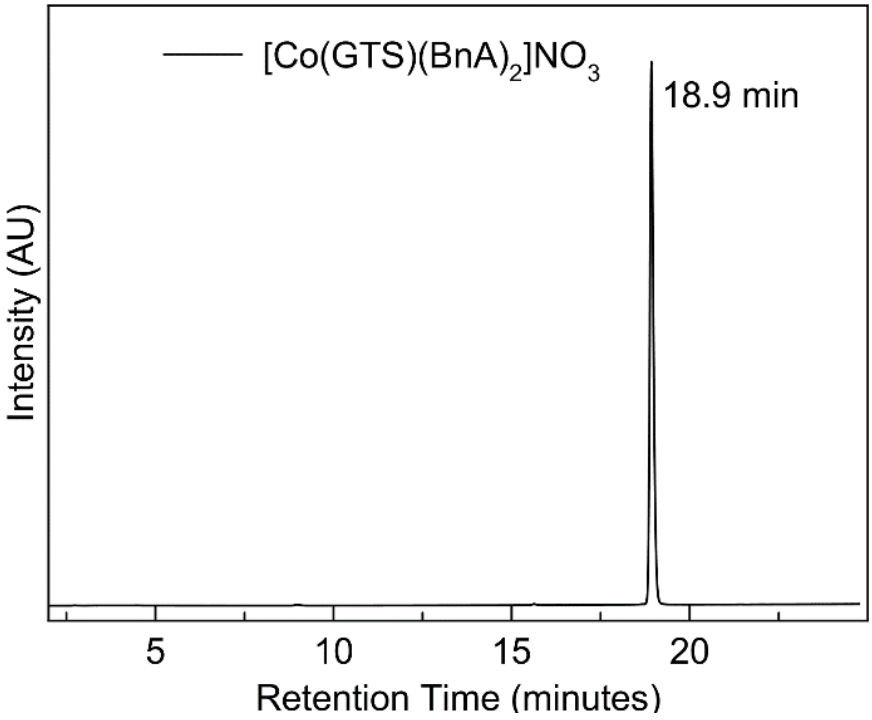

Figure S45. HPLC Chromatogram of $[Co(GTS)(BnA)_2]^+$

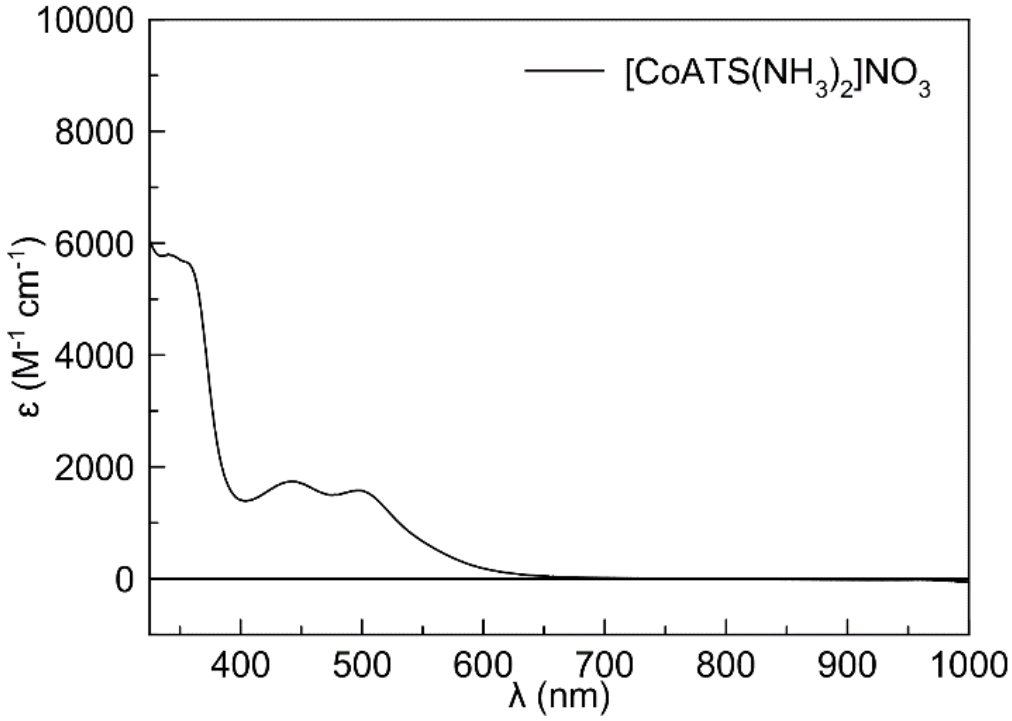

Figure S46. UV-Vis Spectrum of $[Co(ATS)(NH_3)_2]^+$ in pH 7.4 phosphate-buffered saline.

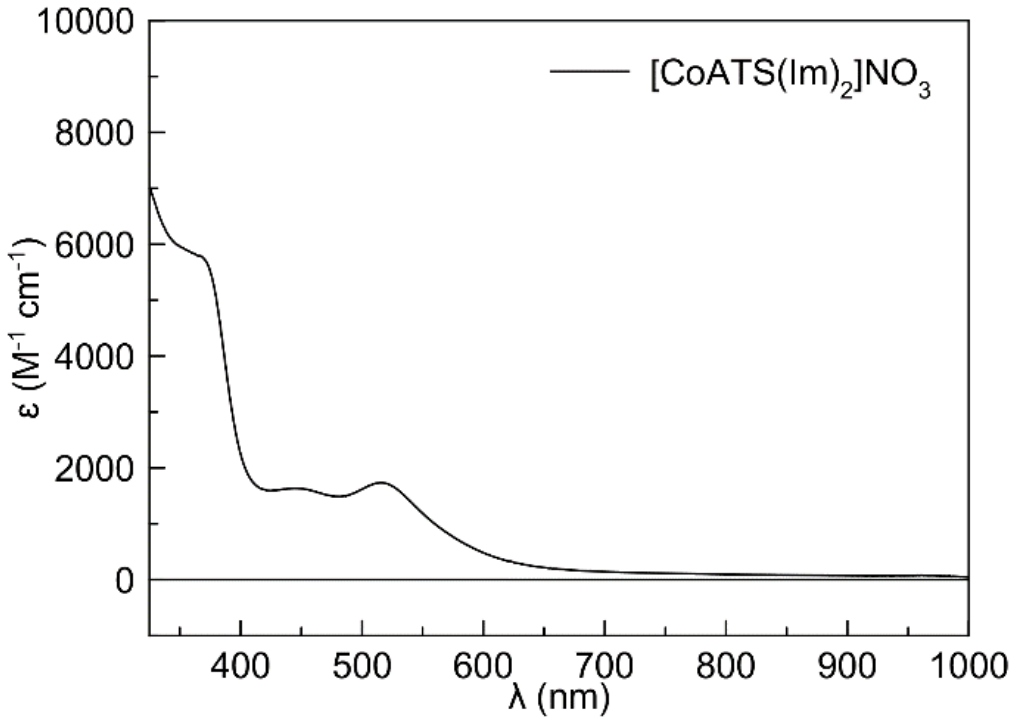

Figure S47. UV-Vis Spectrum of $[Co(ATS)(Im)_2]^+$ in pH 7.4 phosphate-buffered saline.

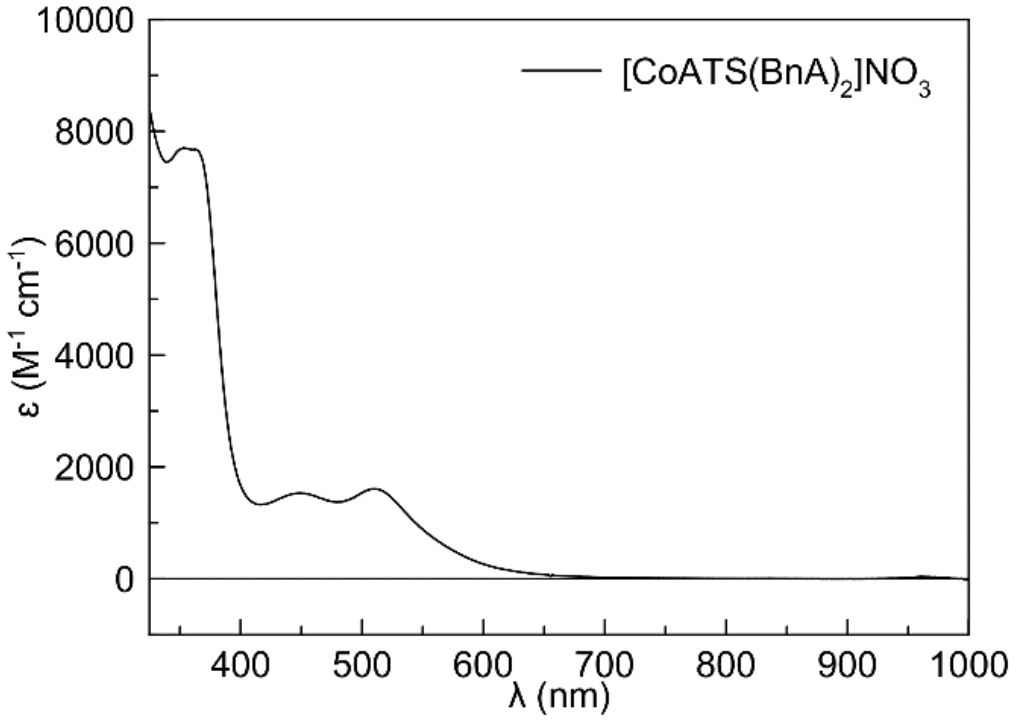

Figure S48. UV-Vis Spectrum of $[Co(ATS)(BnA)_2]^+$ in pH 7.4 phosphate-buffered saline.

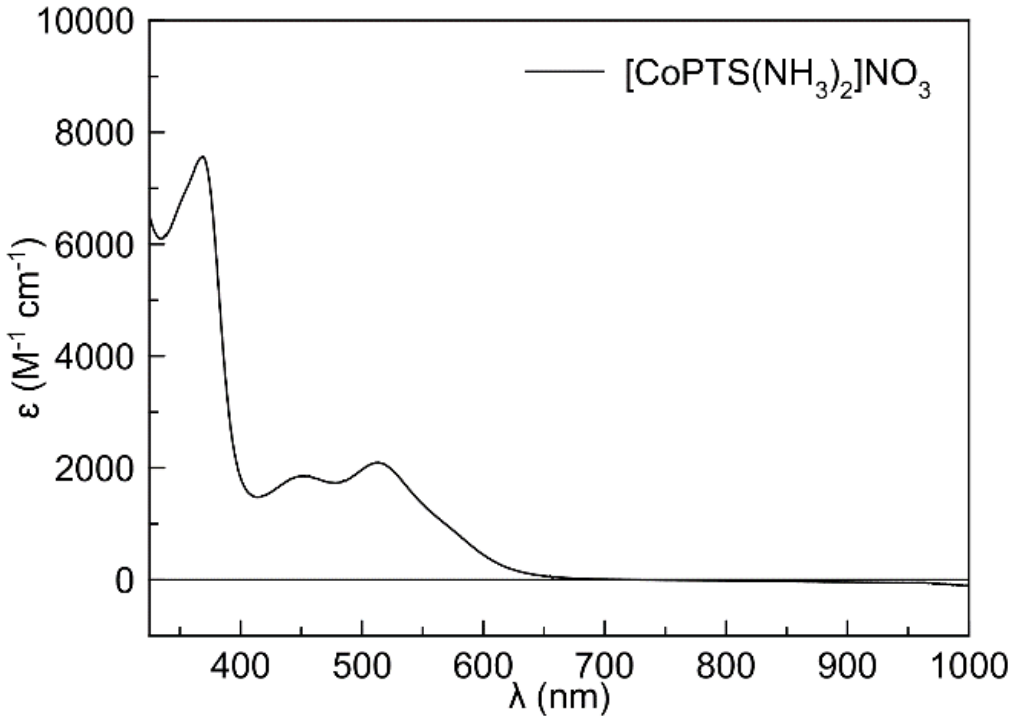

Figure S49. UV-Vis Spectrum of $[Co(PTS)(NH_3)_2]^+$ in pH 7.4 phosphate-buffered saline.

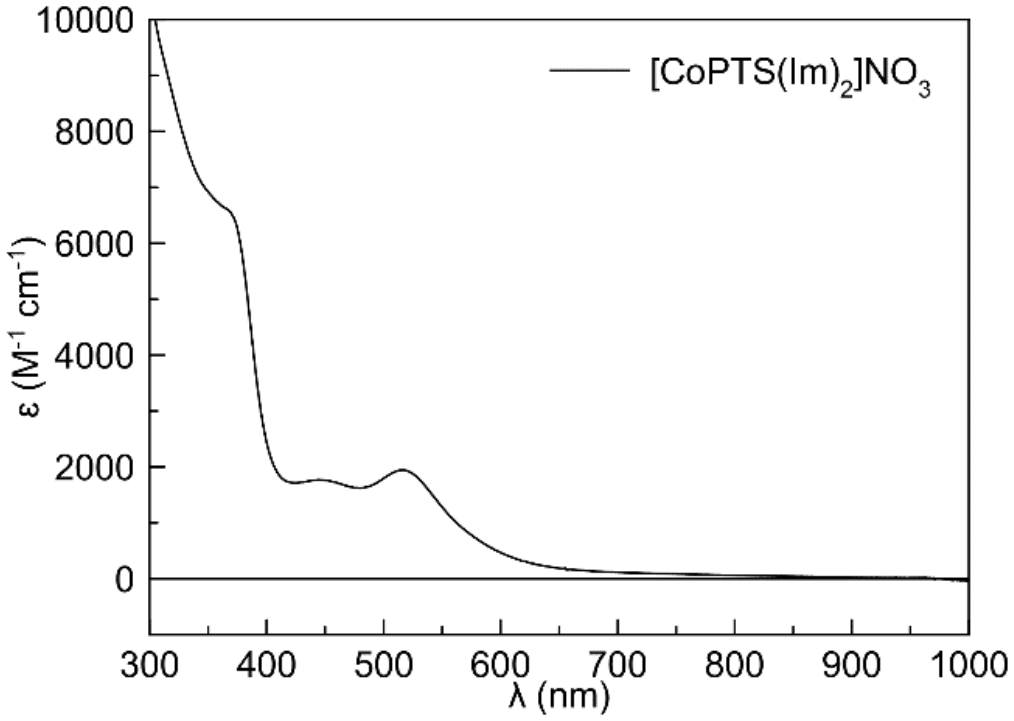

Figure S50. UV-Vis Spectrum of $[Co(PTS)(Im)_2]^+$ in pH 7.4 phosphate-buffered saline.

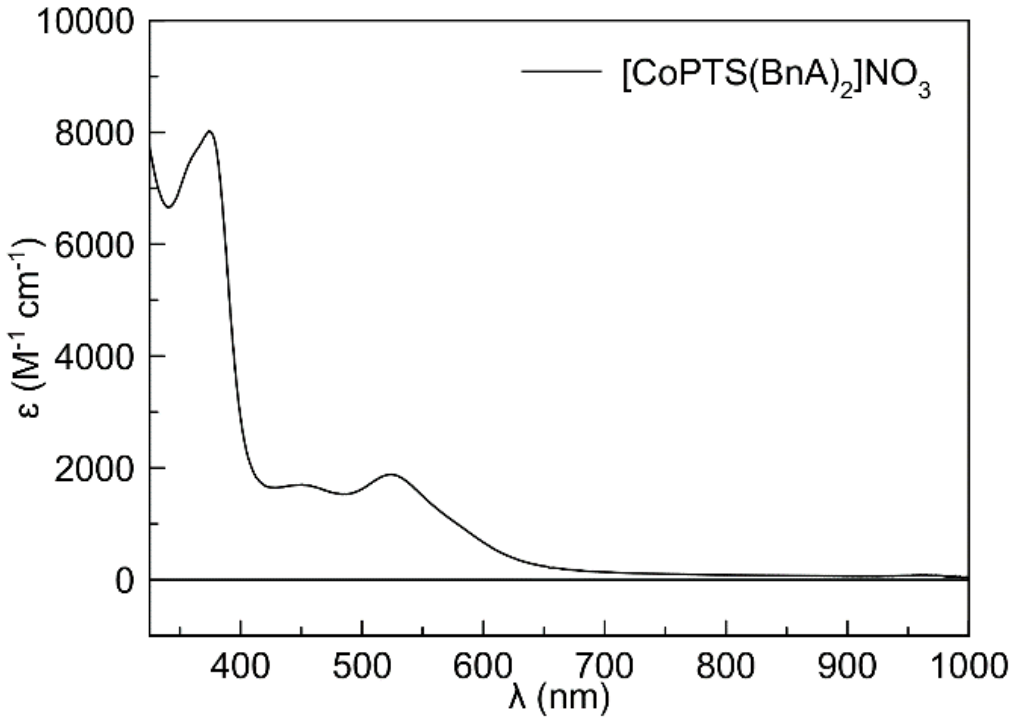

Figure S51. UV-Vis Spectrum of $[Co(PTS)(BnA)_2]^+$ in pH 7.4 phosphate-buffered saline.

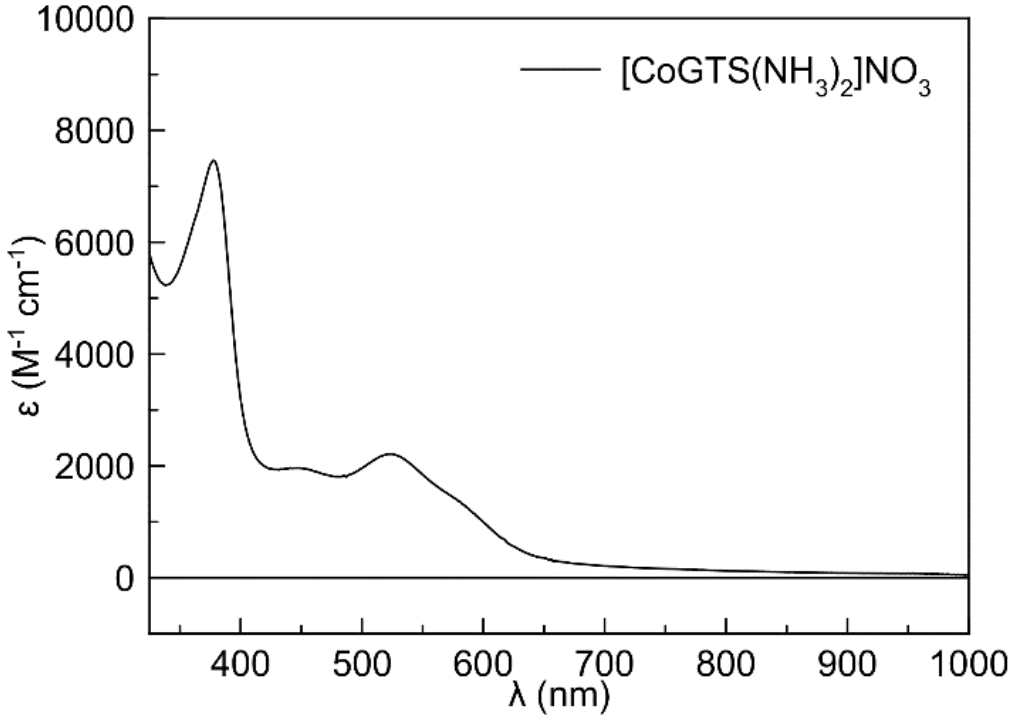

Figure S52. UV-Vis Spectrum of $[Co(GTS)(NH_3)_2]^+$ in pH 7.4 phosphate-buffered saline.

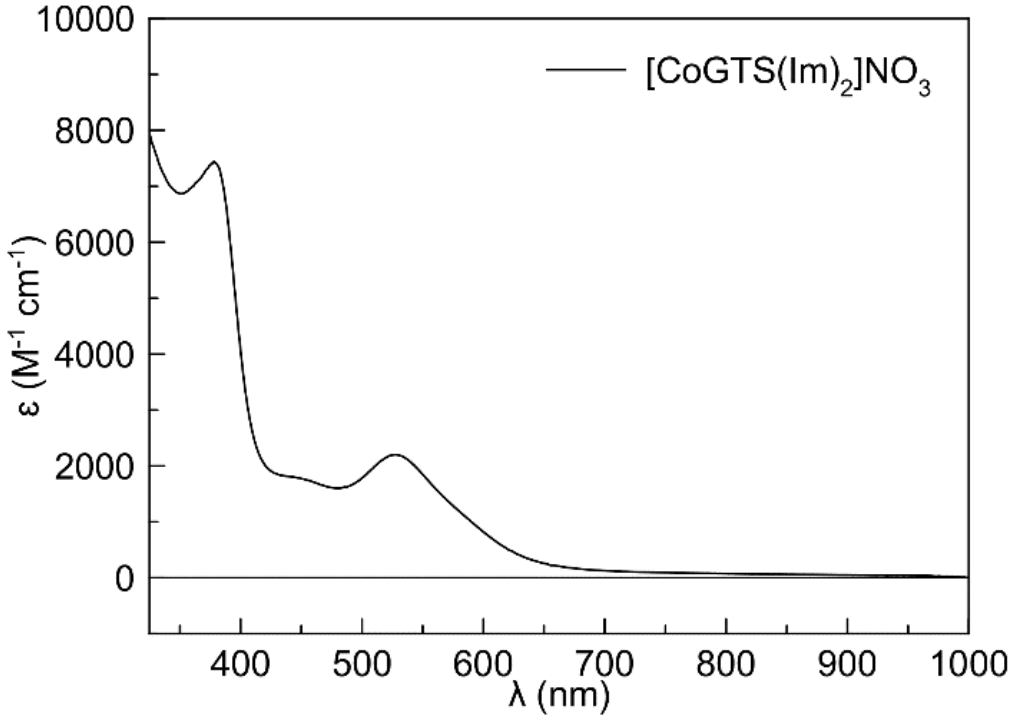

Figure S53. UV-Vis Spectrum of $[Co(GTS)(Im)_2]^+$ in pH 7.4 phosphate-buffered saline.

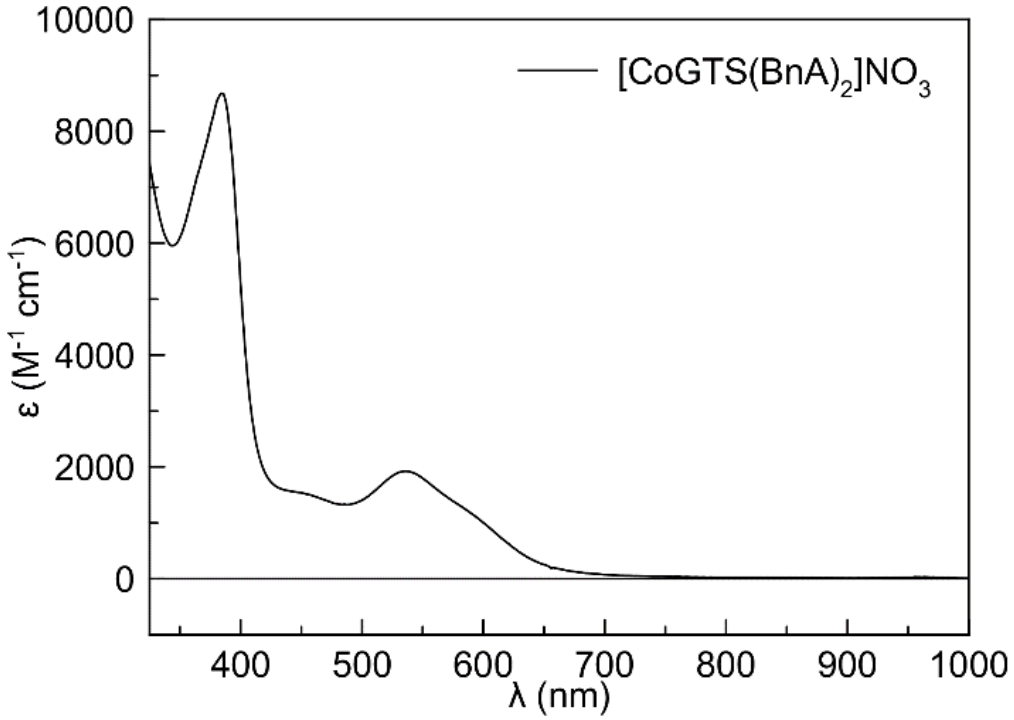

Figure S54. UV-Vis Spectrum of $[Co(GTS)(BnA)_2]^+$ in pH 7.4 phosphate-buffered saline.

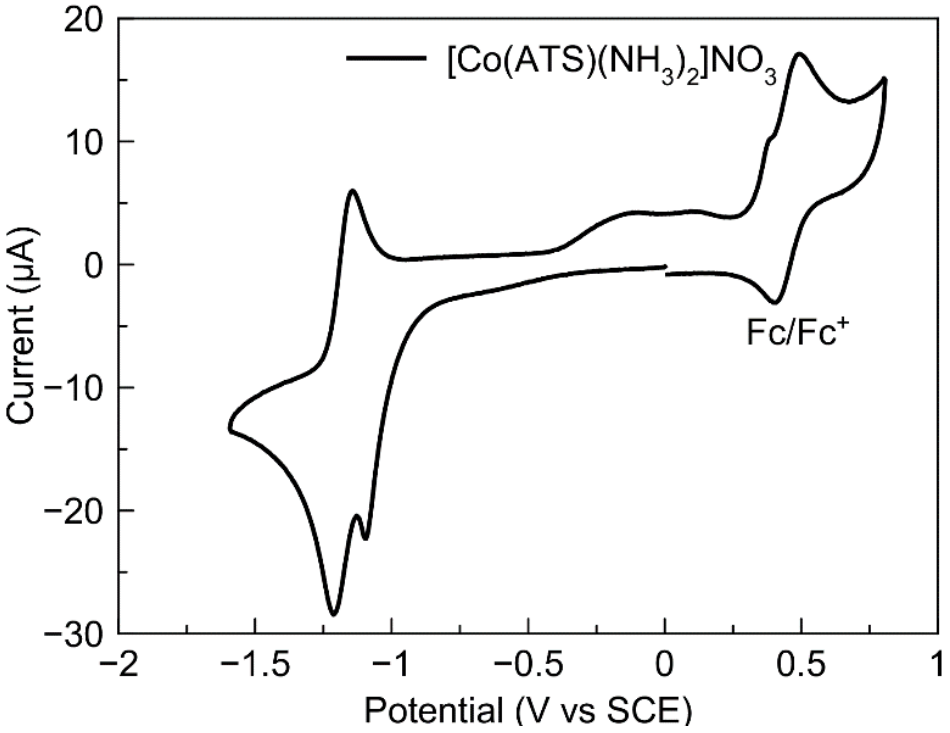

Figure S55. CV of $[Co(ATS)(NH_3)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

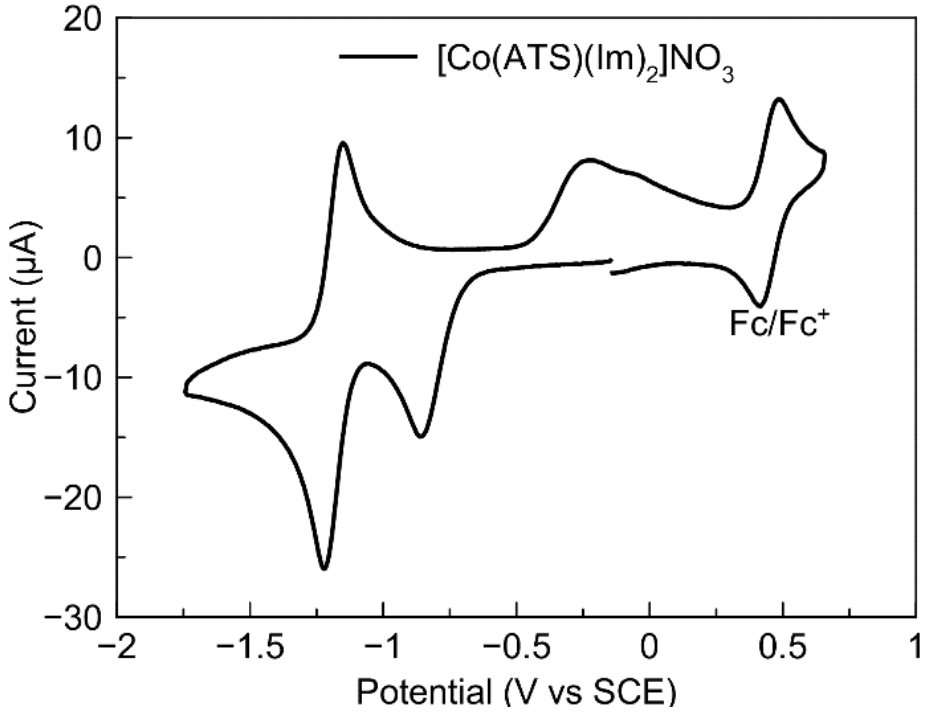

Figure S56. CV of $[Co(ATS)(Im)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

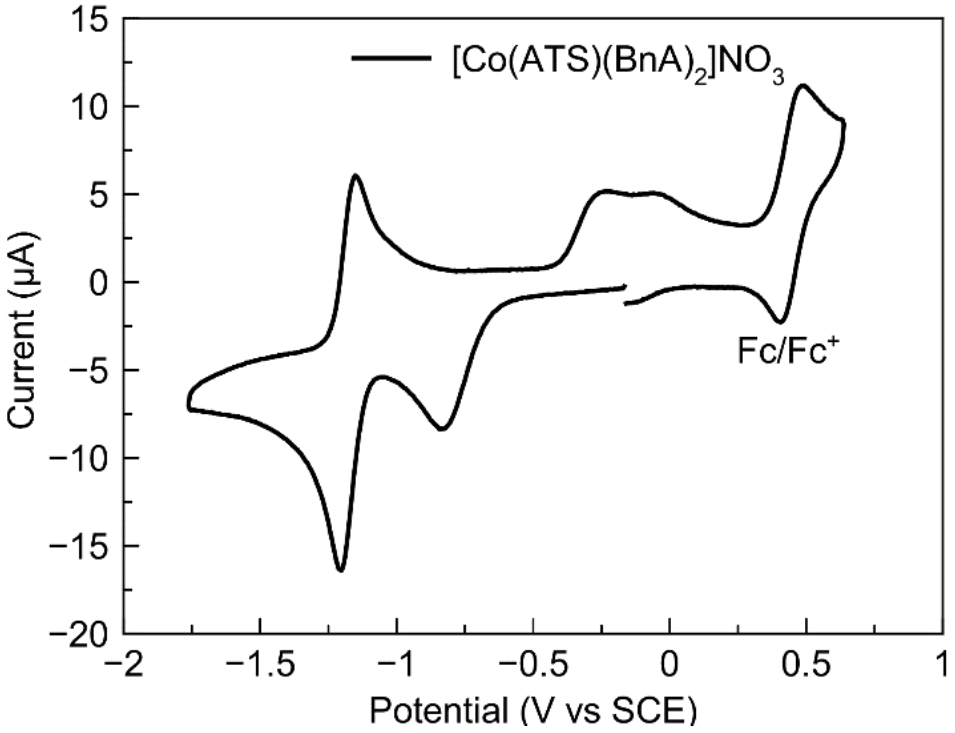

Figure S57. CV of $[Co(ATS)(BnA)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

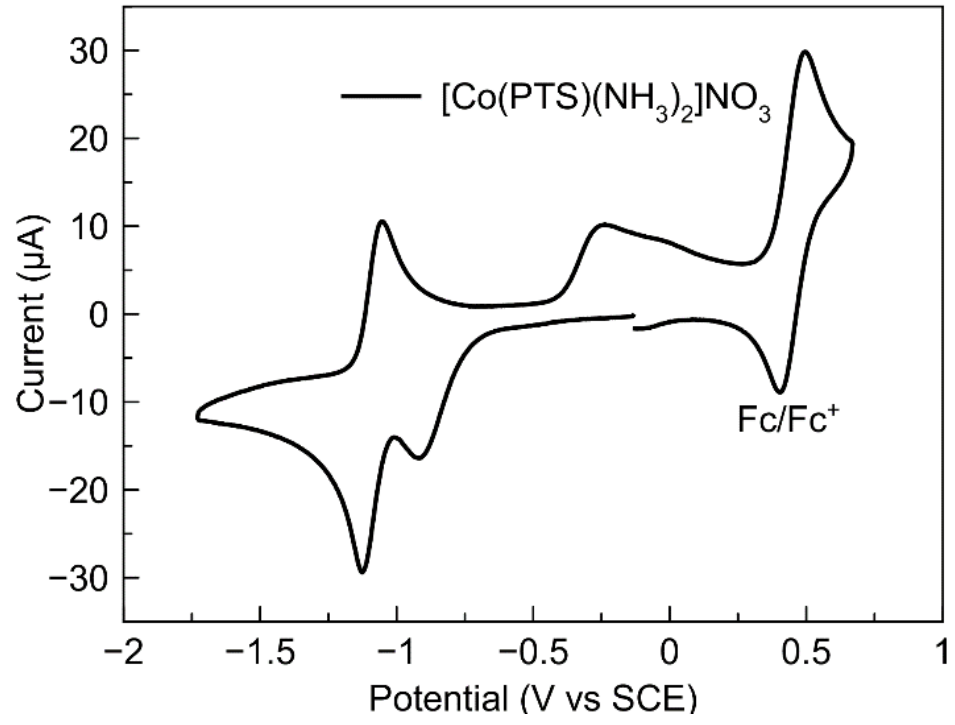

Figure S58. CV of $[Co(PTS)(NH_3)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

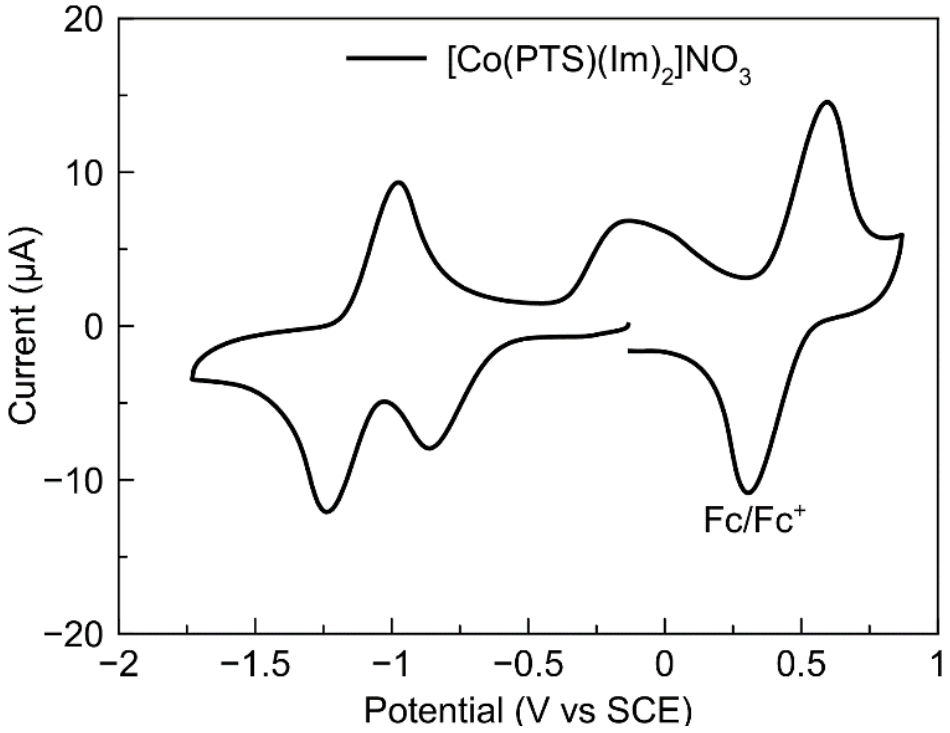

Figure S59. CV of $[Co(PTS)(Im)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

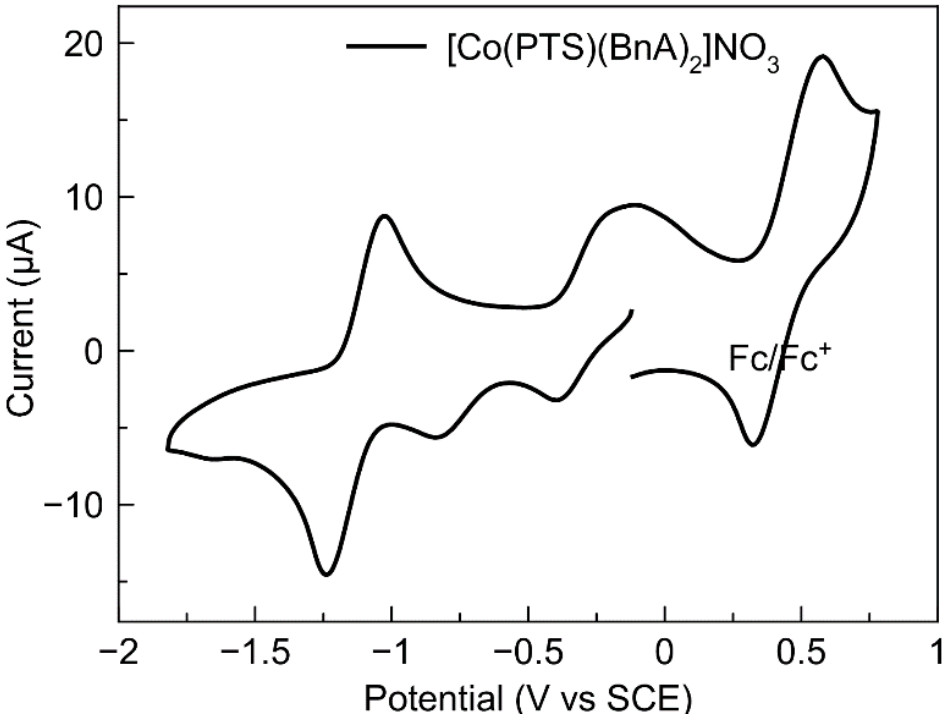

Figure S60. CV of $[Co(PTS)(BnA)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

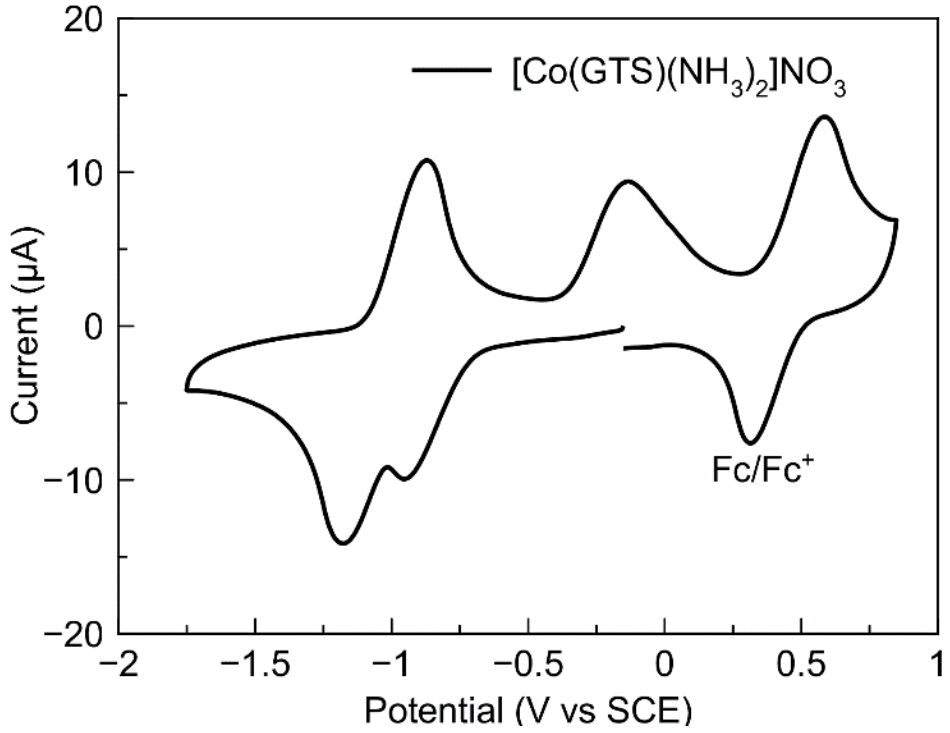

Figure S61. CV of $[Co(GTS)(NH_3)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

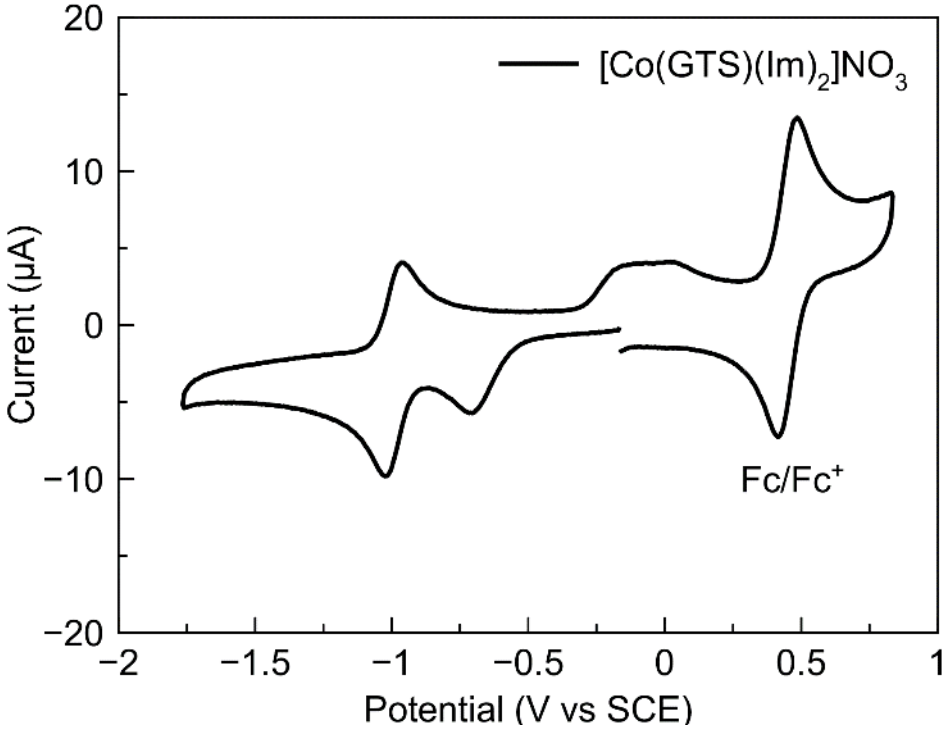

Figure S62. CV of $[Co(GTS)(Im)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

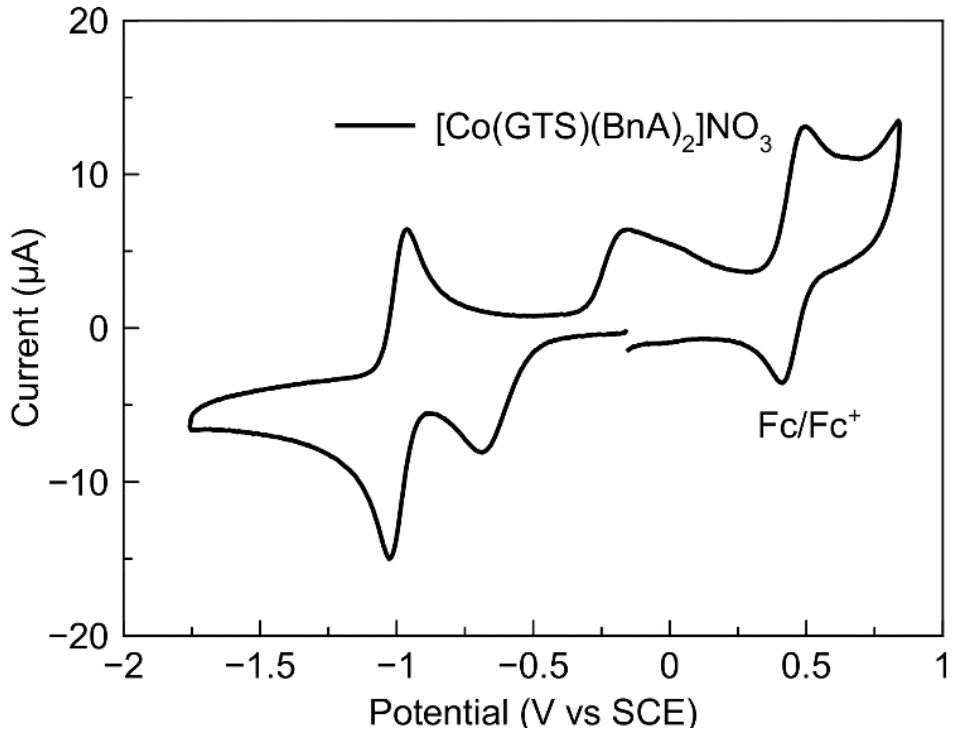

Figure S63. CV of $[Co(GTS)(BnA)_2]^+$ in DMF with 0.1 M $[N(Bu)_4]PF_6$

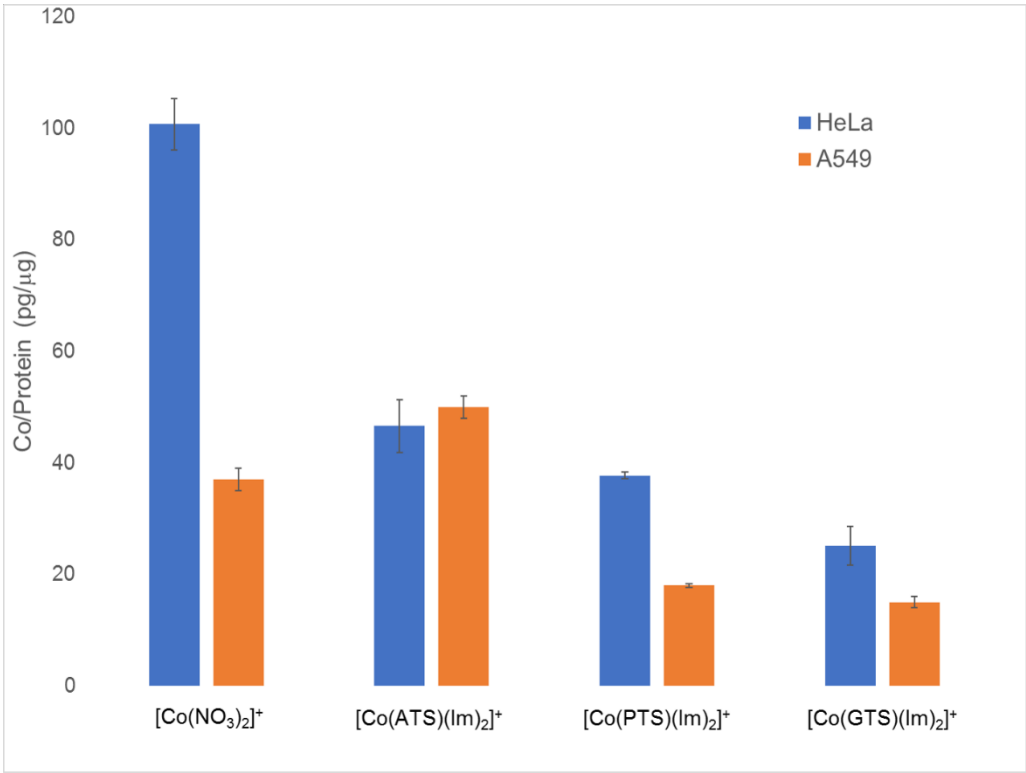

Figure S64. Uptake of $[Co(BTSC)(Im)_2]^+$ Complexes in HeLa and A549 Cells

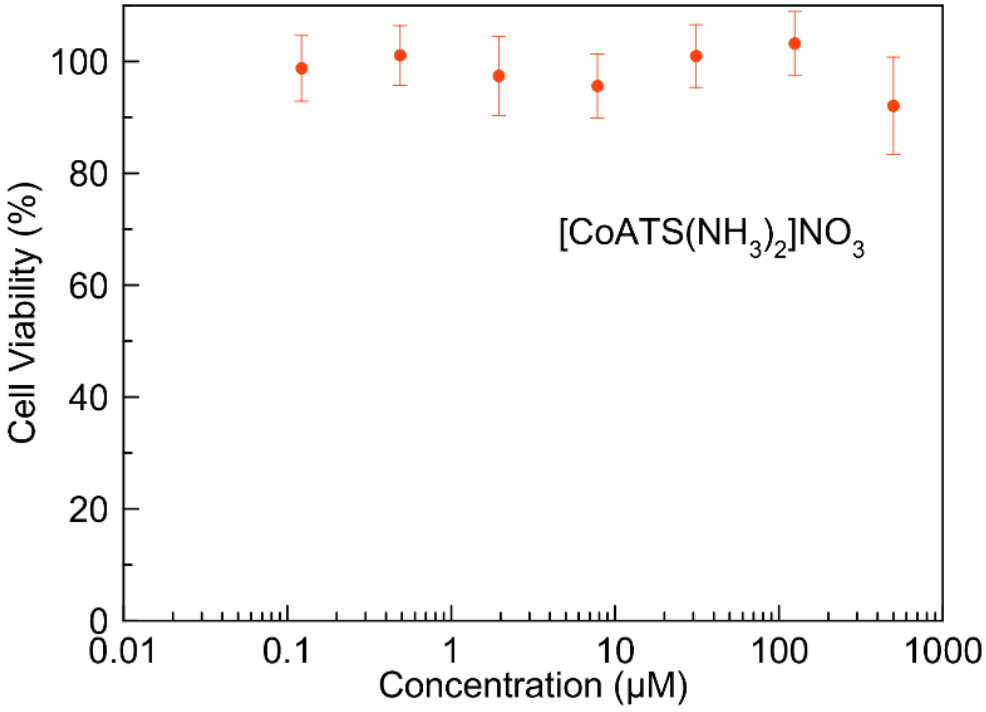

Figure S65. Dose-Response Curve of $[Co(ATS)(NH_3)_2]^+$ in A549 Cells

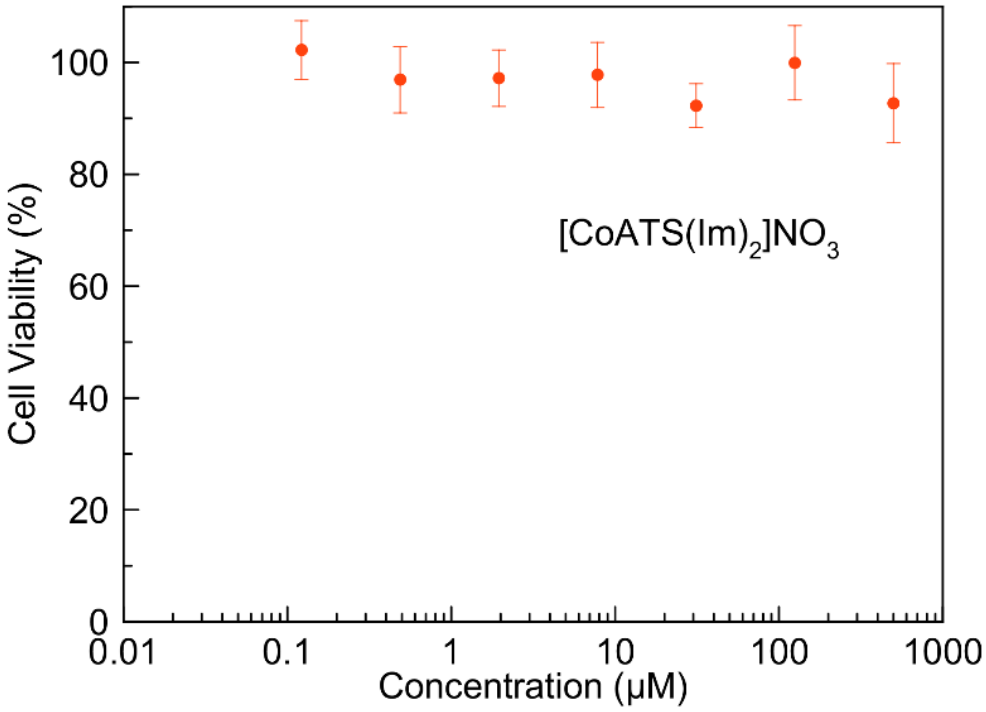

Figure S66. Dose-Response Curve of $[Co(ATS)(Im)_2]^+$ in A549 Cells

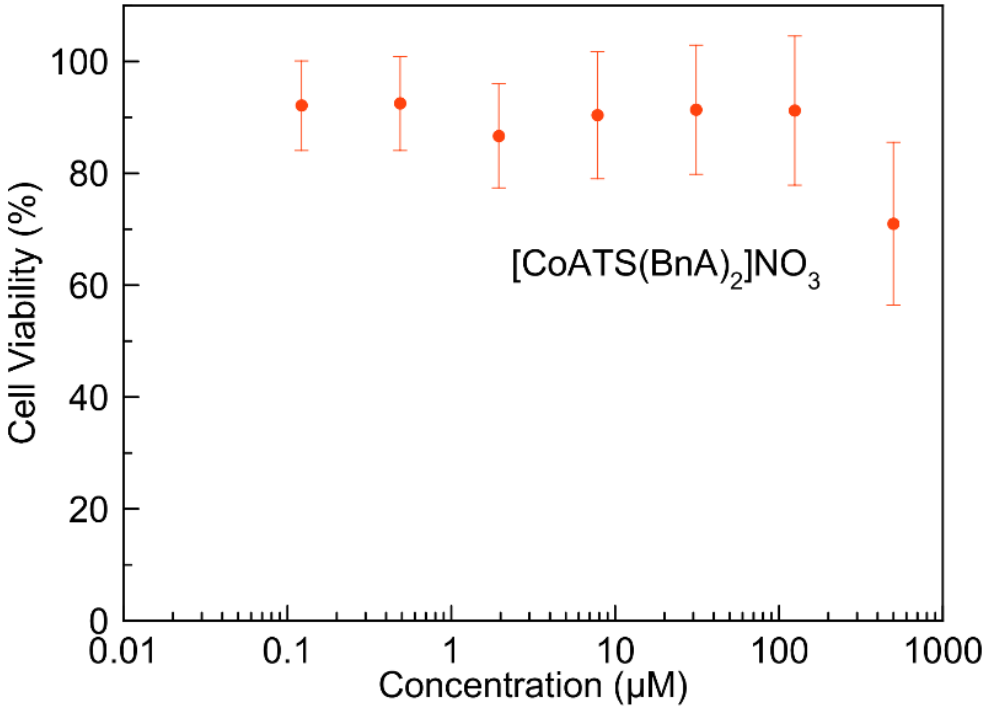

Figure S67. Dose-Response Curve of $[Co(ATS)(BnA)_2]^+$ in A549 Cells

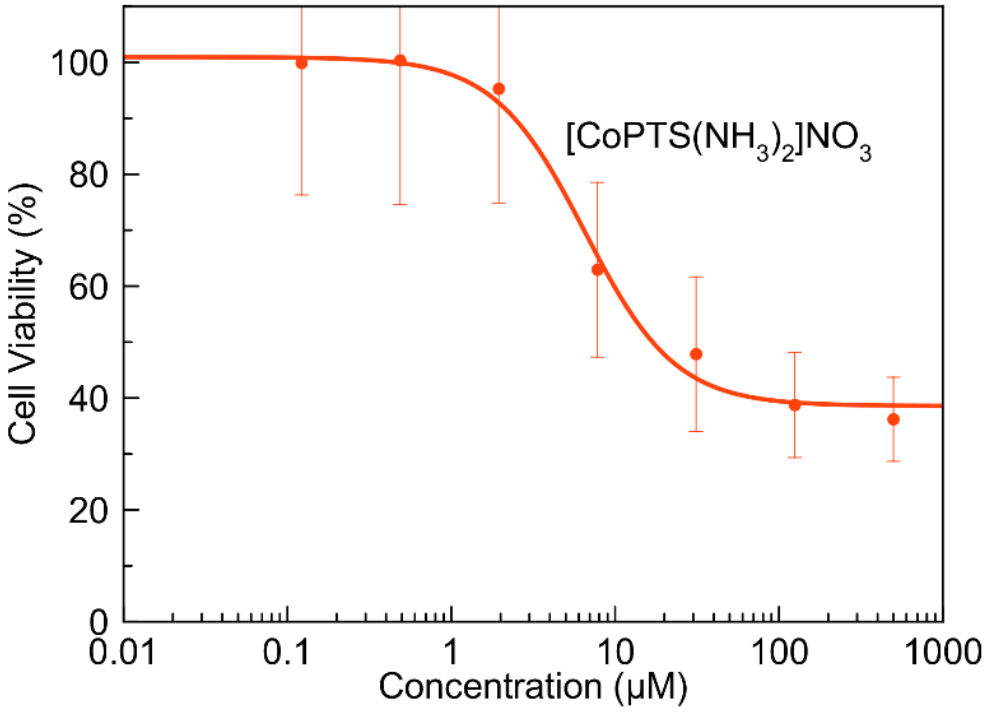

Figure S68. Dose-Response Curve of $[Co(PTS)(NH_3)_2]^+$ in A549 Cells

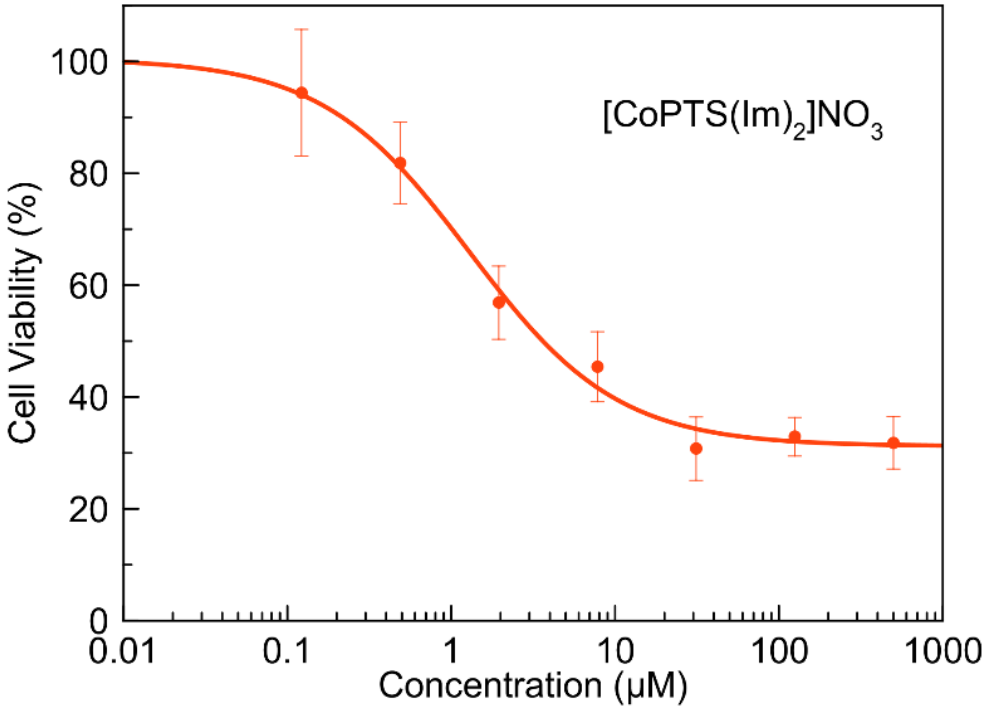

Figure S69. Dose-Response Curve of $[Co(PTS)(Im)_2]^+$ in A549 Cells

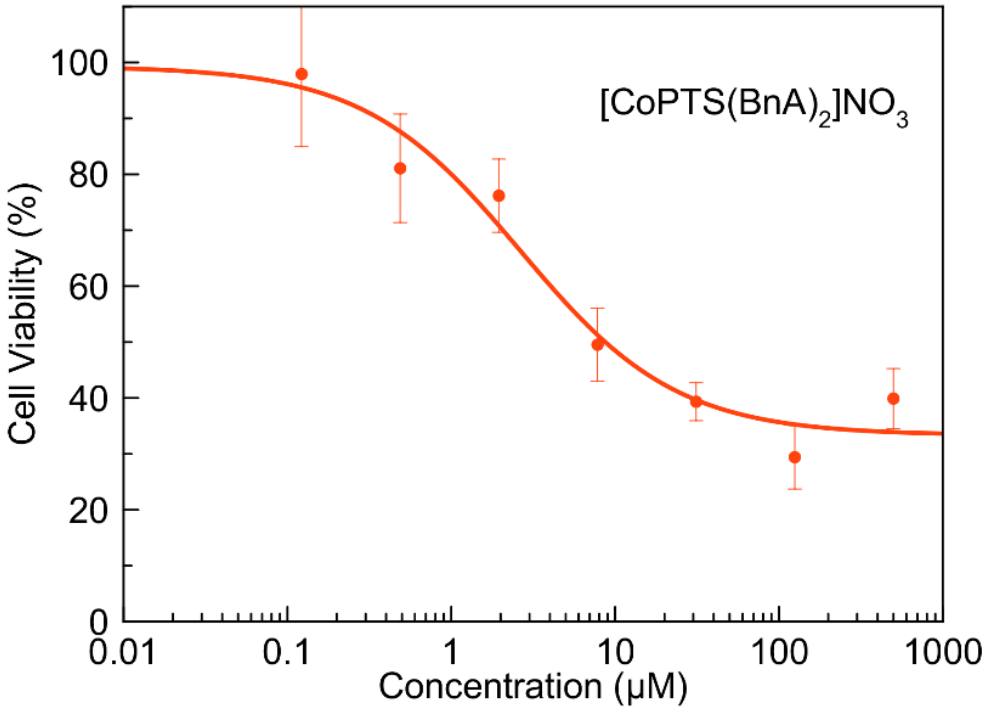

Figure S70. Dose-Response Curve of $[Co(PTS)(BnA)_2]^+$ in A549 Cells

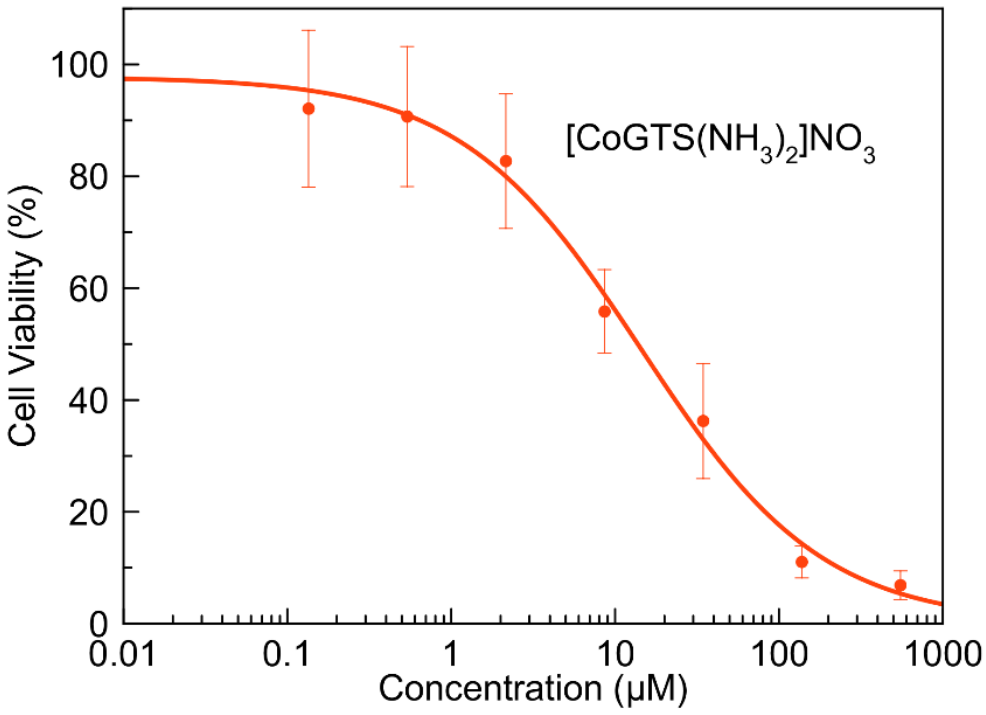

Figure S71. Dose-Response Curve of $[Co(GTS)(NH_3)_2]^+$ in A549 Cells

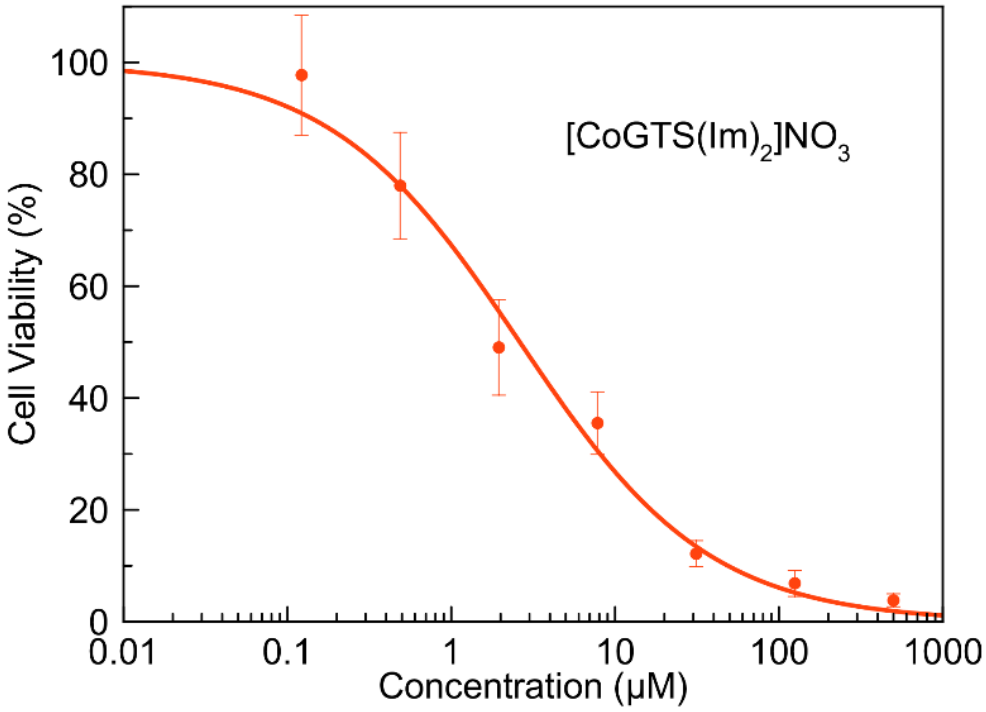

Figure S72. Dose-Response Curve of $[Co(GTS)(Im)_2]^+$ in A549 Cells

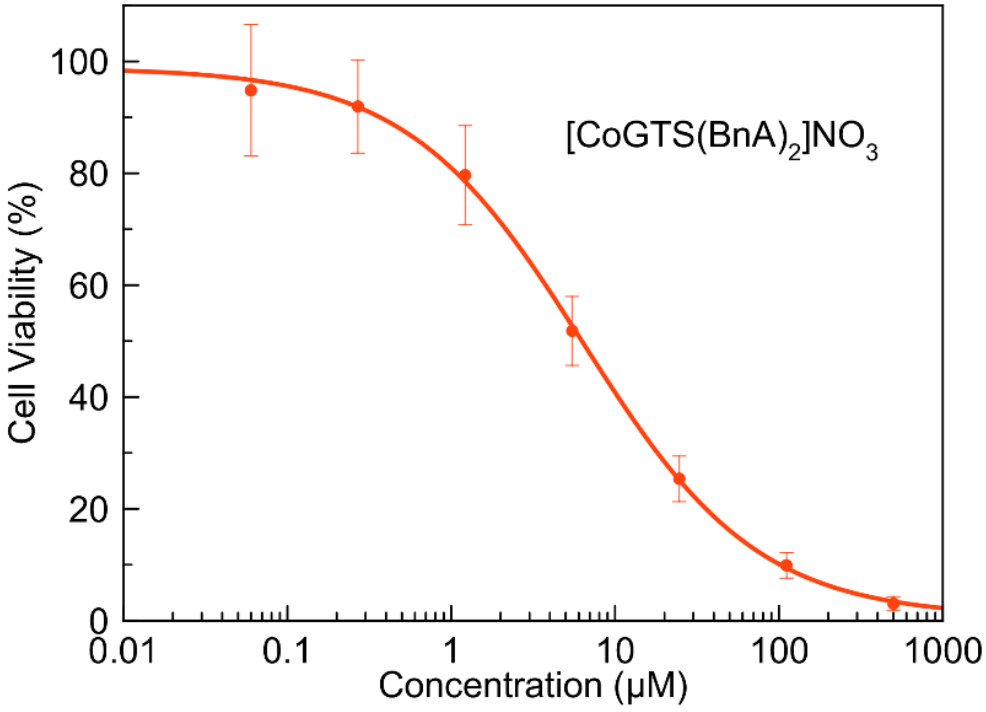

Figure S73. Dose-Response Curve of $[Co(GTS)(BnA)_2]^+$ in A549 Cells

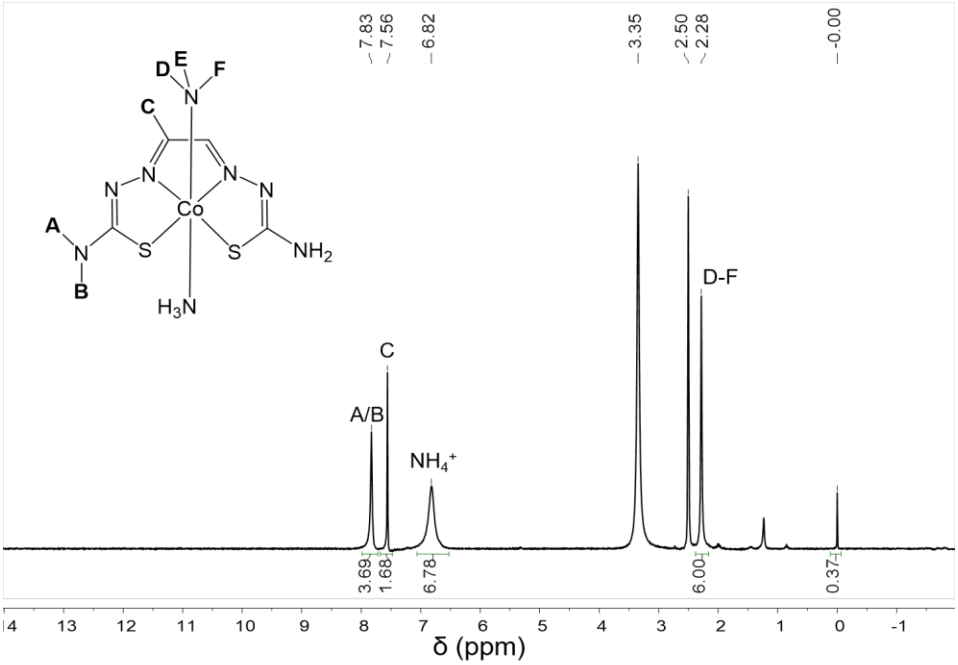

Figure S74. ^{1}H NMR spectrum of $[Co(GTS)(NH_3)_2]^+$ and ammonium tetrathiomolybdate immediately after mixing (DMSO-d_6, 400 MHz, 298 K)

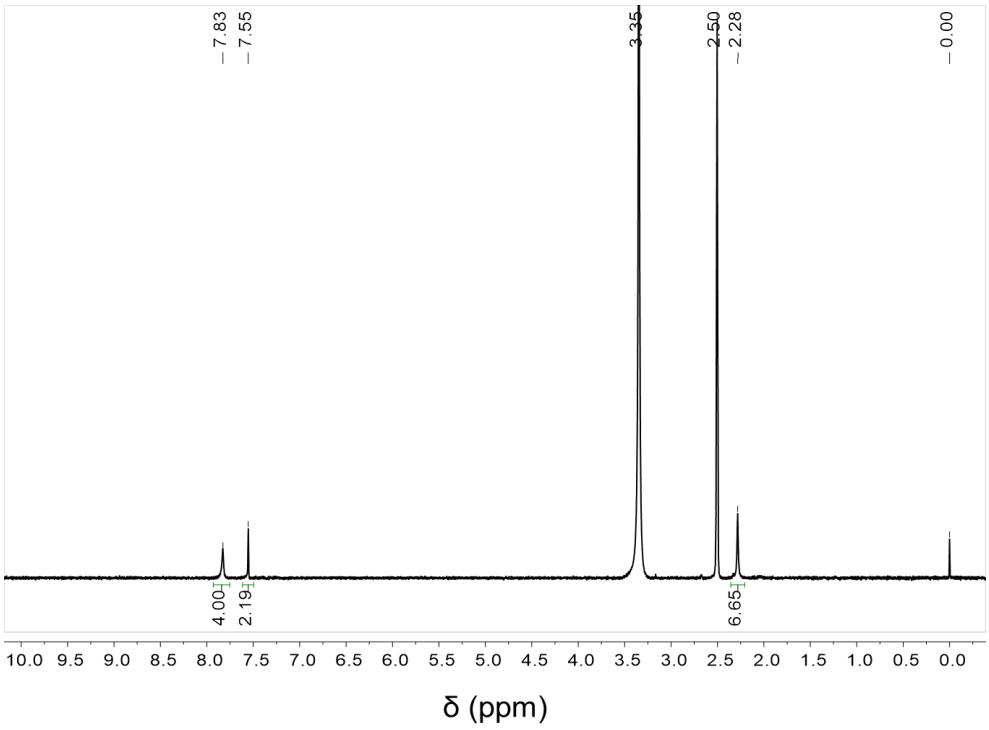

Figure S75. ^{1}H NMR spectrum of $[Co(GTS)(NH_3)_2]^+$ and ammonium tetrathiomolybdate 1 day after mixing (DMSO-d_6, 400 MHz, 298 K)