Supporting Information

Synthesis and Biological Evaluation of Analogues of AKT (Protein Kinase B) Inhibitor-IV

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Table of Contents

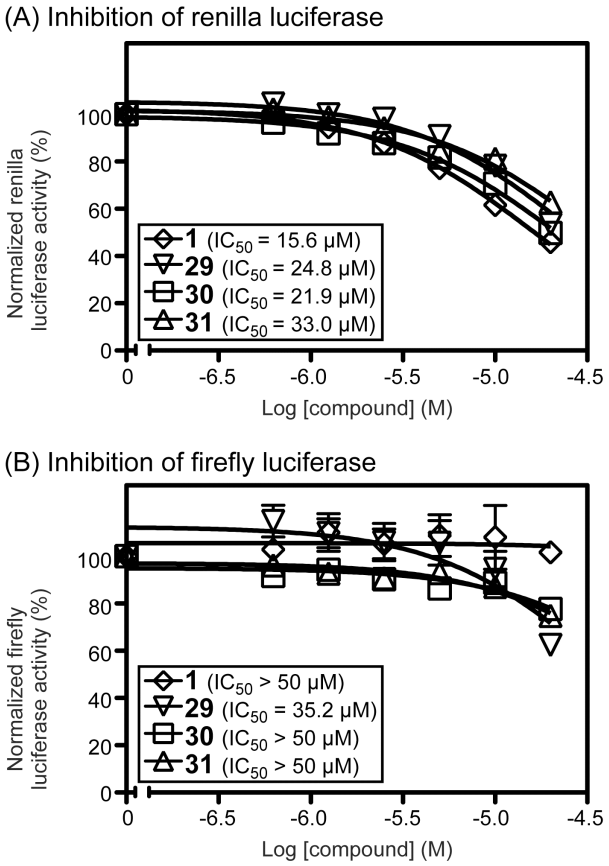

Figure S1. Analysis of inhibition of renilla (Panel A) and firefly (Panel B) luciferases by compounds **1** and **29**-**31**. Mammalian cells (BSR-T7 cells) were transfected with plasmids encoding firefly or renilla luciferase. The cells were lysed with passive lysis buffer (1X, Promega). The compounds were diluted in the same lysis buffer and mixed with equal volume of cell lysate. Luciferase activity was measured with Promega assay kits using a 96-well luminometer. Relative activity values were calculated as a percentage of the activity obtained from vehicle (DMSO)-treated cell lysate, and IC_{50} values were calculated using a nonlinear regression model (Prism v. 5.0). Standard errors of the mean were < 20%.

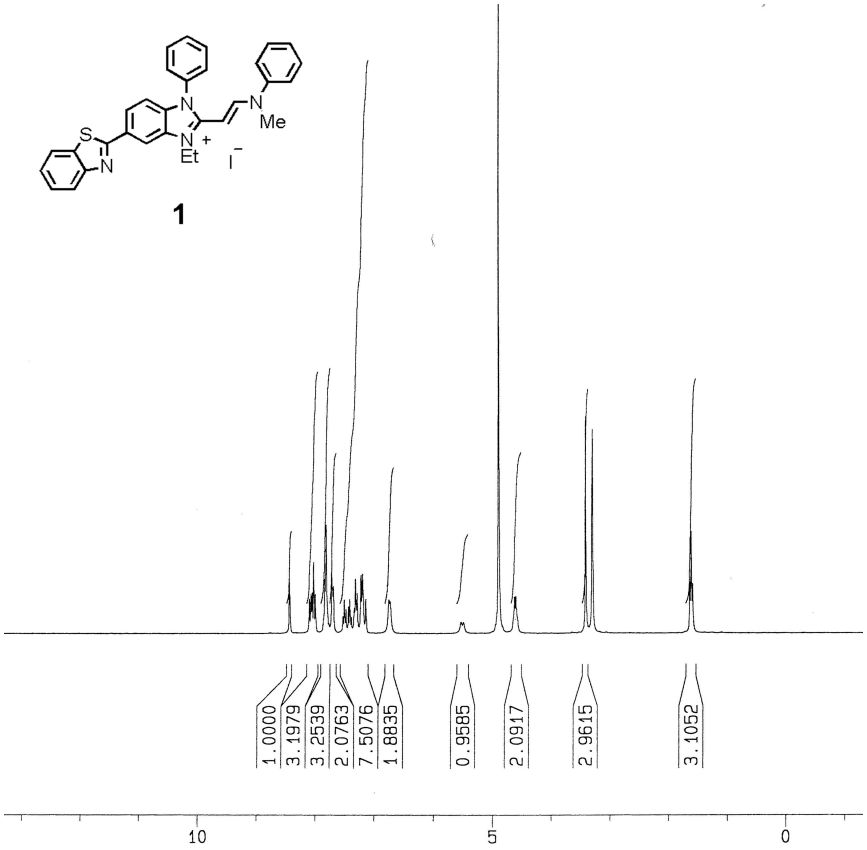

Figure S2. ^{1}H NMR (400 MHz) of a solution of **1** in CD_3OD.

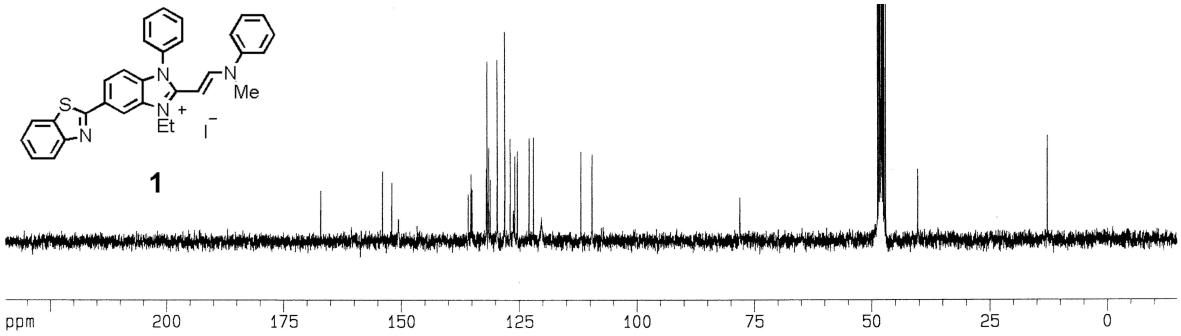

Figure S3. ^{13}C NMR (100 MHz) of a solution of **1** in CD_3OD.

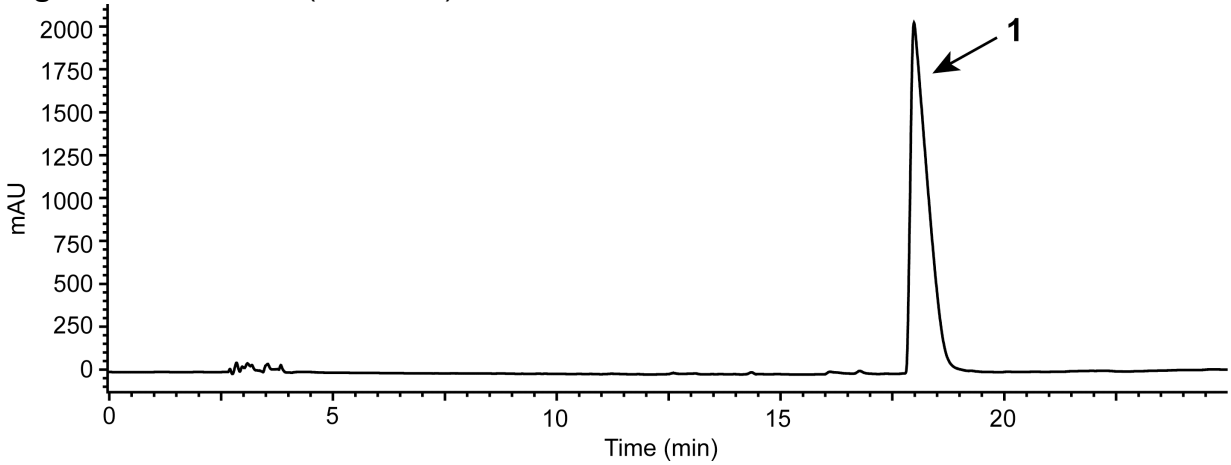

Figure S4. Analytical reverse-phase HPLC profile of compound **1** prior to bioassay. Retention time = 17.1 min. Purity = 99%. Absorbance wavelength = 254 nm.

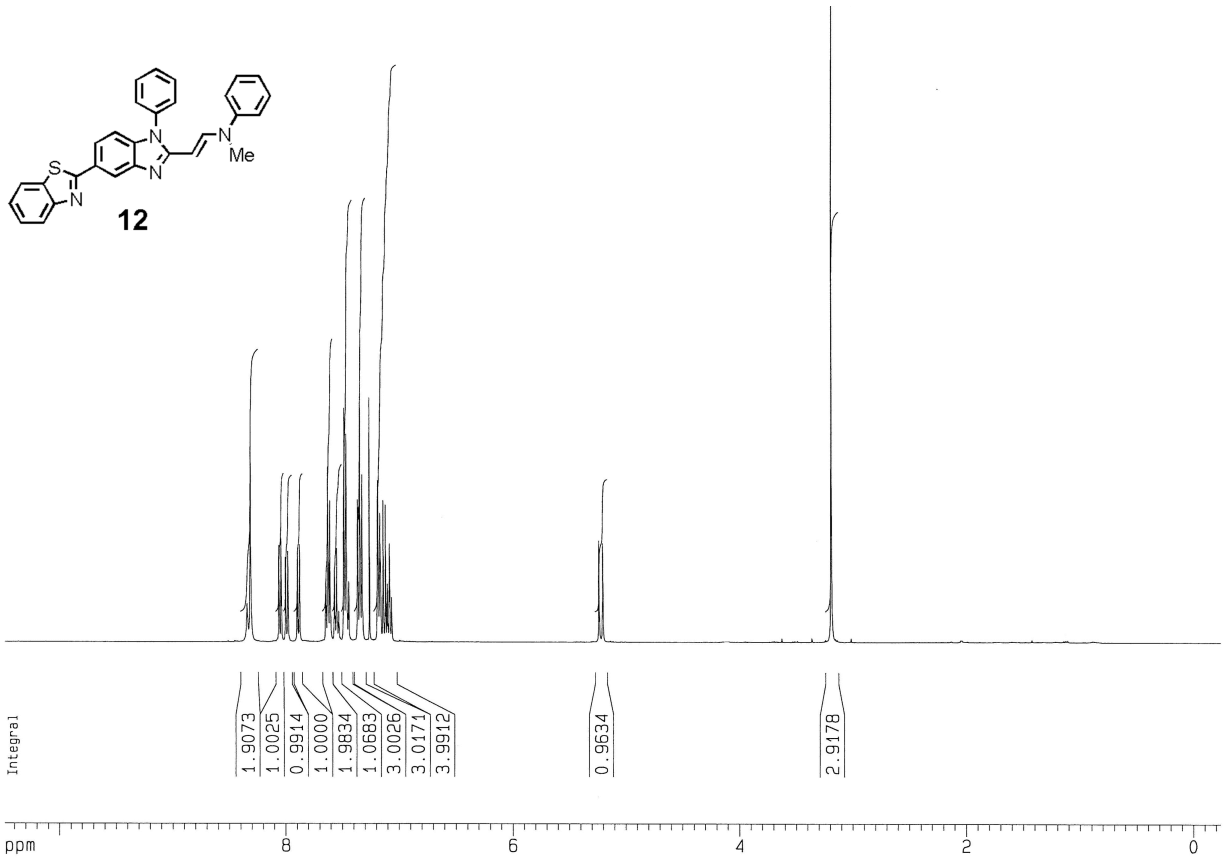

Figure S5. ^{1}H NMR (400 MHz) of a solution of **12** in $CDCl_3$.

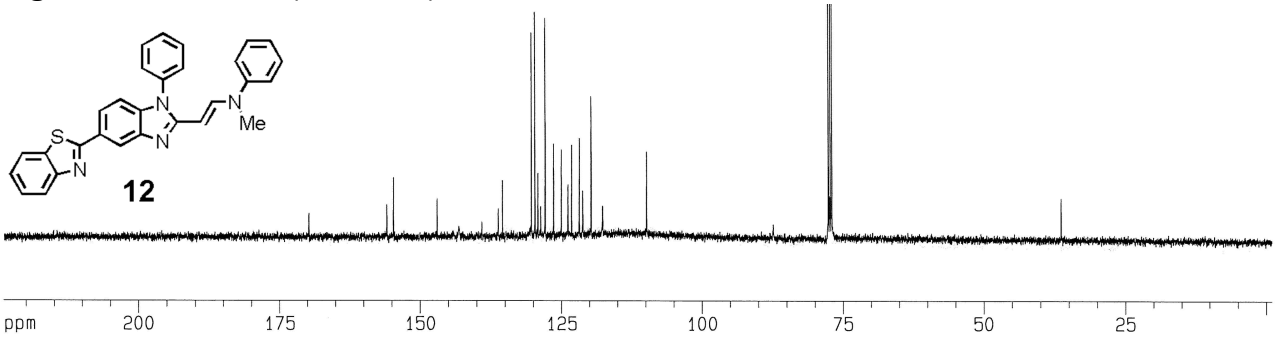

Figure S6. ^{13}C NMR (100 MHz) of a solution of **12** in $CDCl_3$.

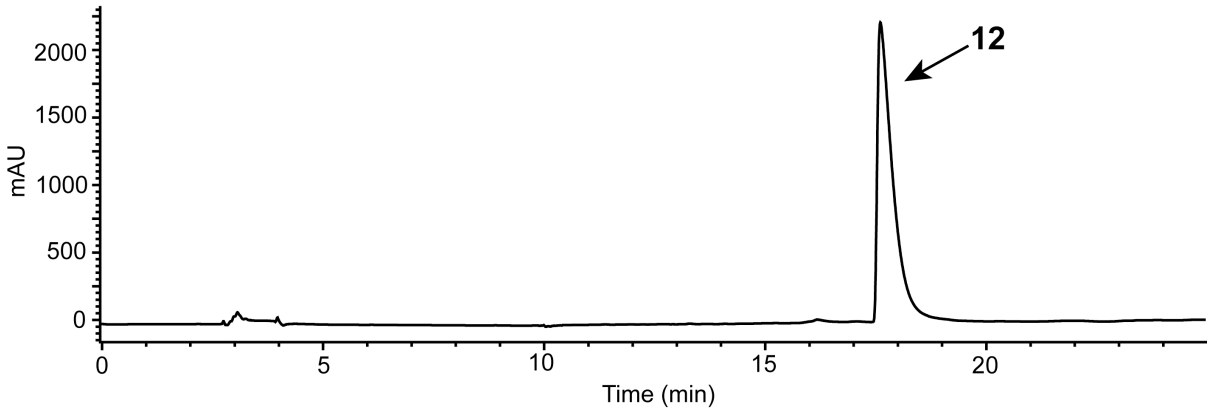

Figure S7. Analytical reverse-phase HPLC profile of compound **12** prior to bioassay. Retention time = 17.6 min. Purity = 99%. Absorbance wavelength = 254 nm.

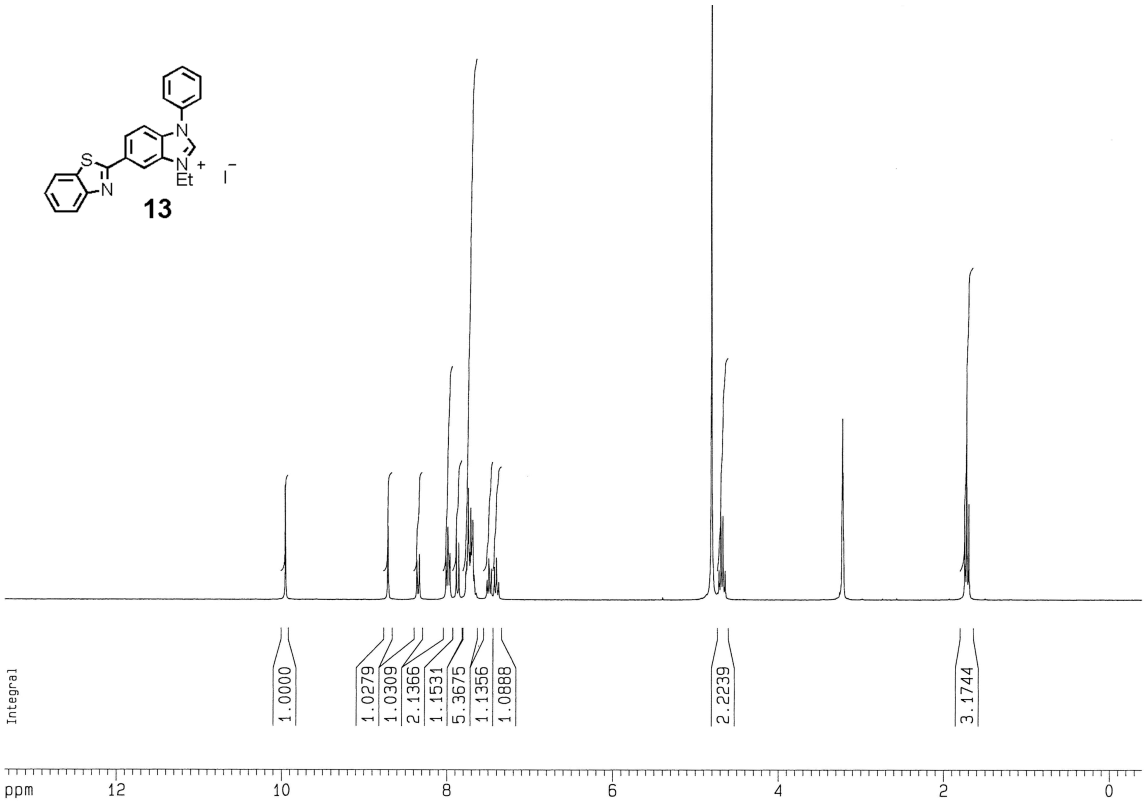

Figure S8. ^{1}H NMR (400 MHz) of a solution of **13** in $CDCl_3$.

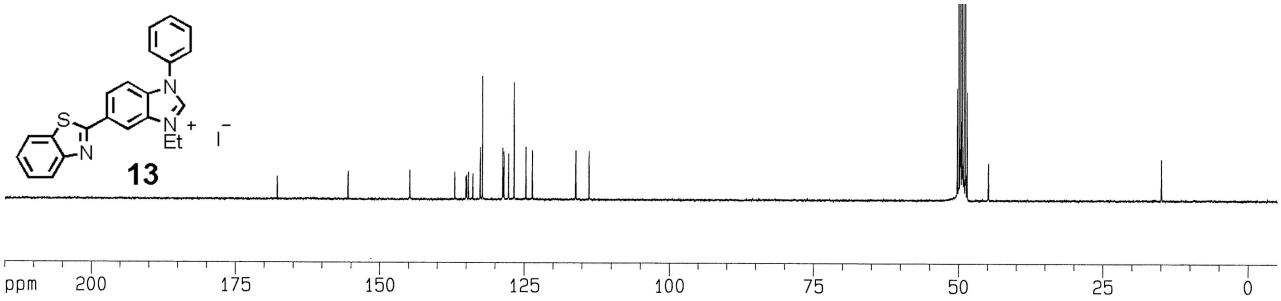

Figure S9. ^{13}C NMR (100 MHz) of a solution of **13** in $CDCl_3$.

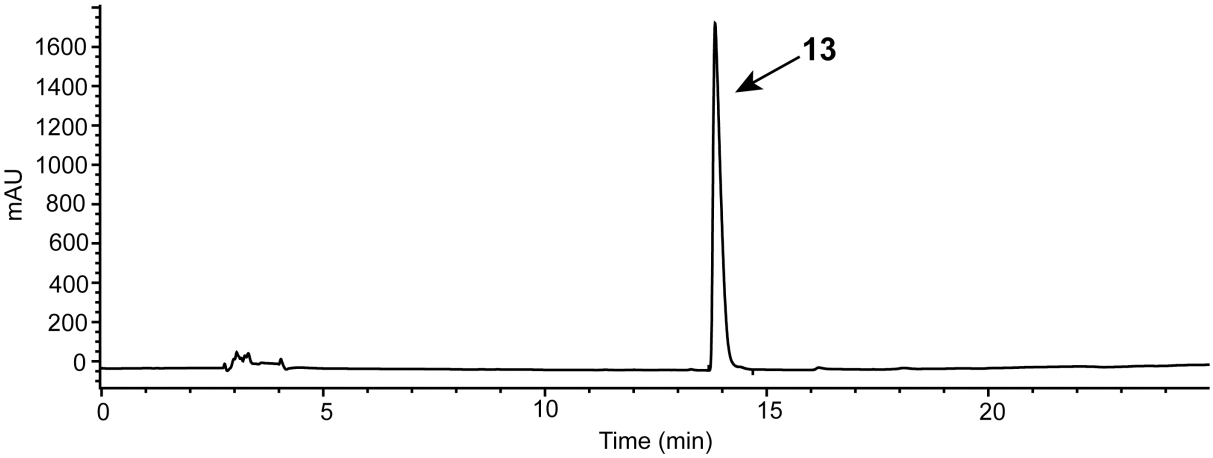

Figure S10. Analytical reverse-phase HPLC profile of compound **13** prior to bioassay. Retention time = 13.8 min. Purity = 99%. Absorbance wavelength = 254 nm.

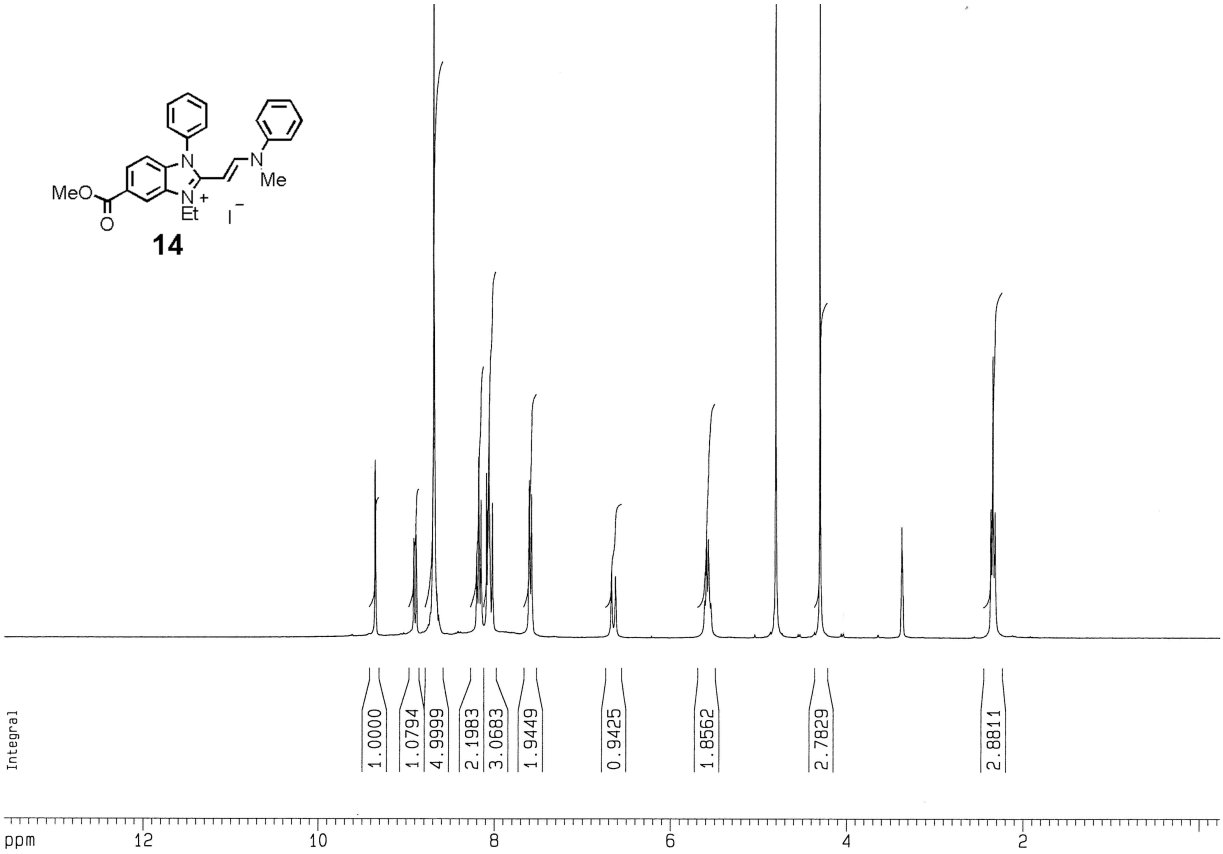

Figure S11. ^{1}H NMR (400 MHz) of a solution of **14** in $CDCl_3$.

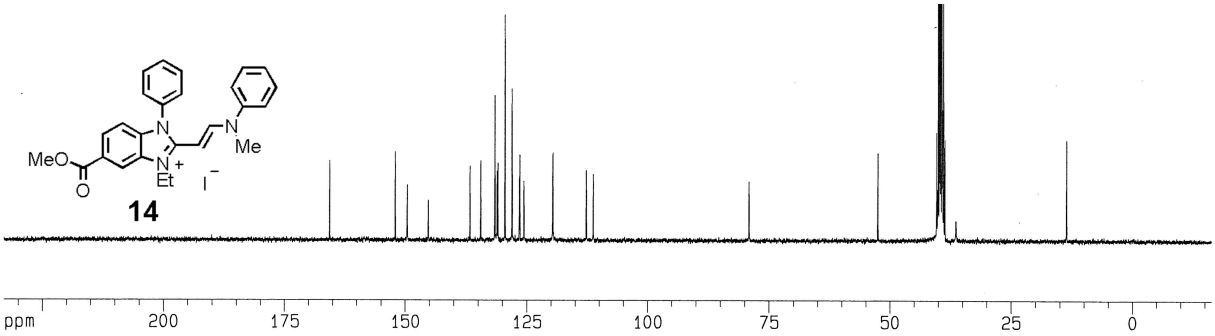

Figure S12. ^{13}C NMR (100 MHz) of a solution of **14** in $CDCl_3$.

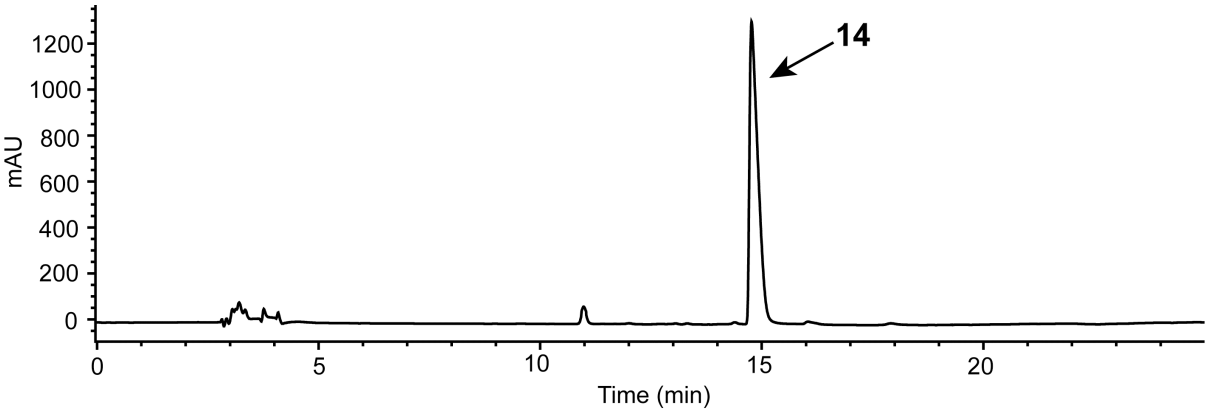

Figure S13. Analytical reverse-phase HPLC profile of compound **14** prior to bioassay. Retention time = 14.8 min. Purity = 98%. Absorbance wavelength = 254 nm.

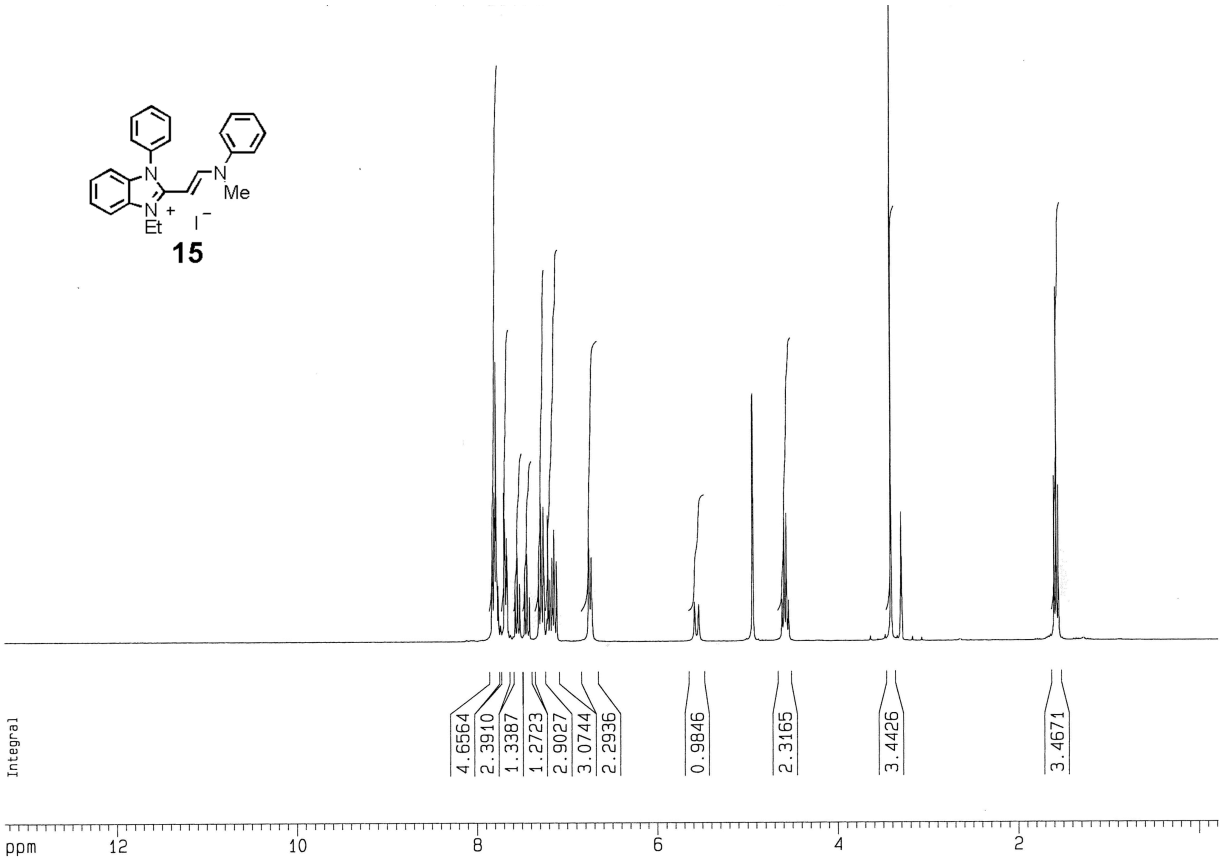

Figure S14. ^{1}H NMR (400 MHz) of a solution of **15** in CD_3OD.

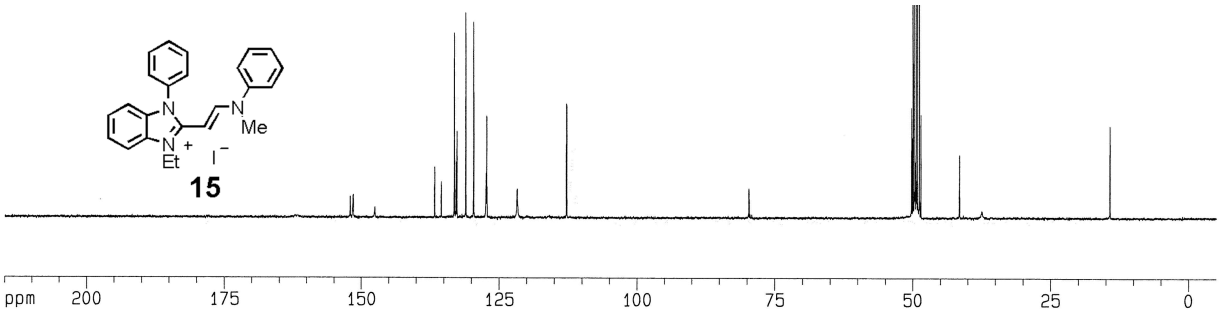

Figure S15. ^{13}C NMR (100 MHz) of a solution of **15** in CD_3OD.

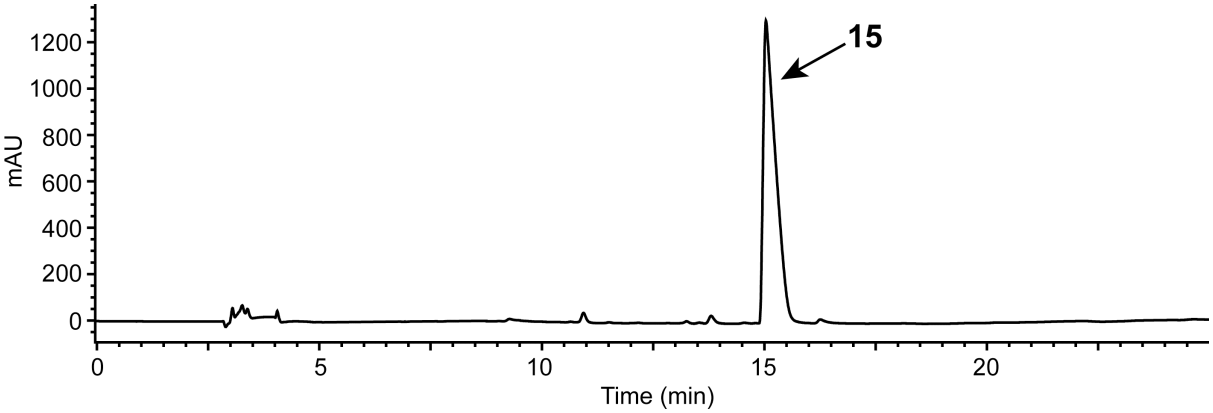

Figure S16. Analytical reverse-phase HPLC profile of compound **15** prior to bioassay. Retention time = 15.0 min. Purity = 98%. Absorbance wavelength = 254 nm.

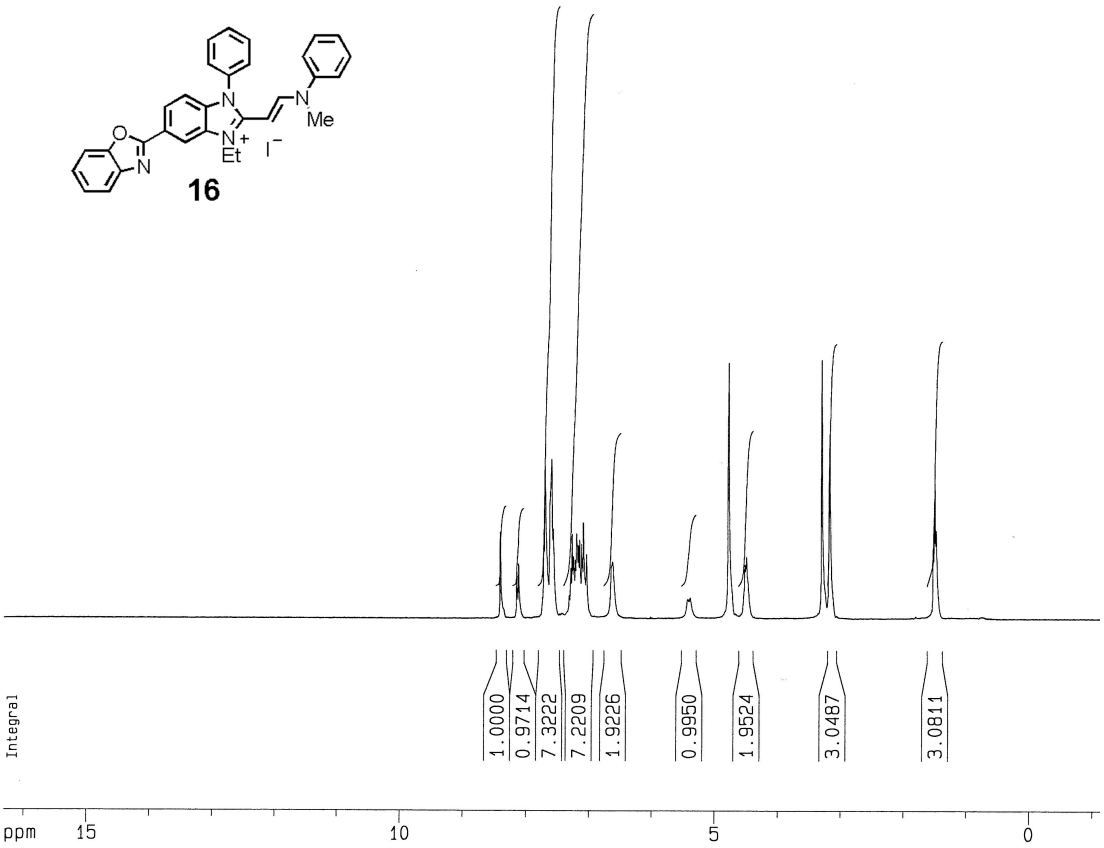

Figure S17. ^{1}H NMR (400 MHz) of a solution of **16** in $CDCl_3$.

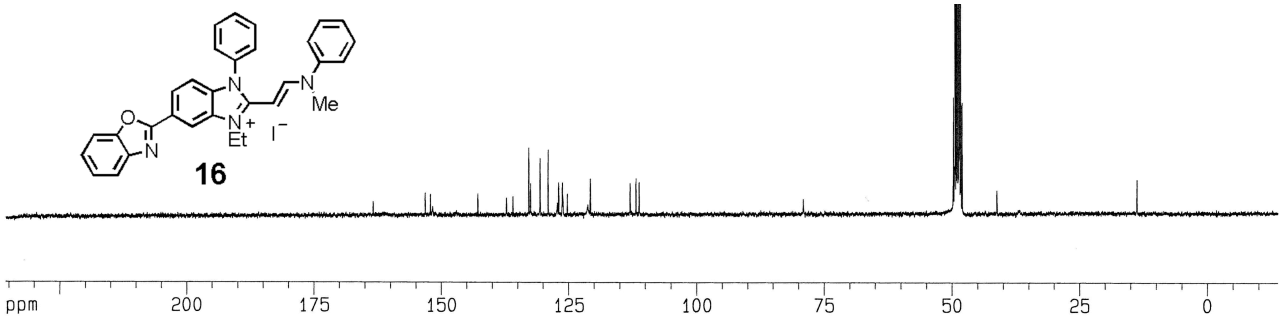

Figure S18. ^{13}C NMR (100 MHz) of a solution of **16** in $CDCl_3$.

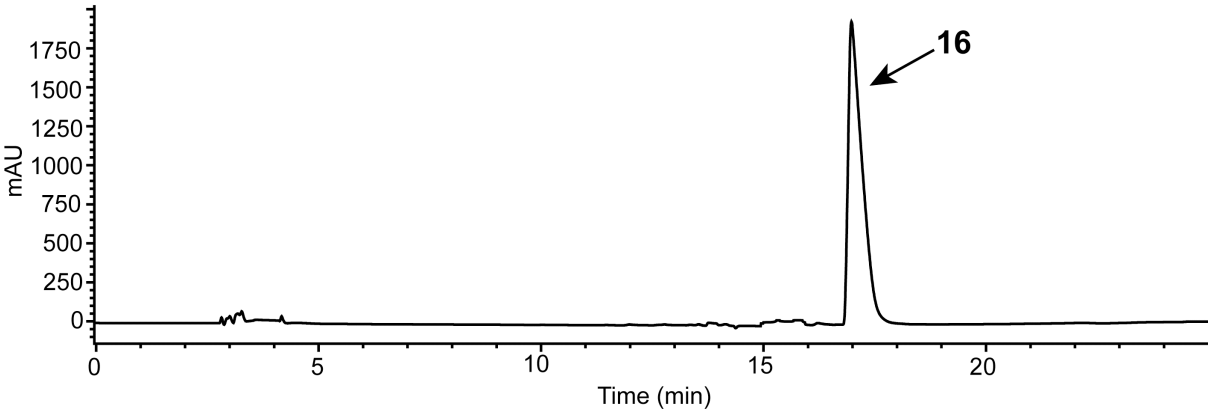

Figure S19. Analytical reverse-phase HPLC profile of compound **16** prior to bioassay. Retention time = 17.0 min. Purity = 98%. Absorbance wavelength = 254 nm.

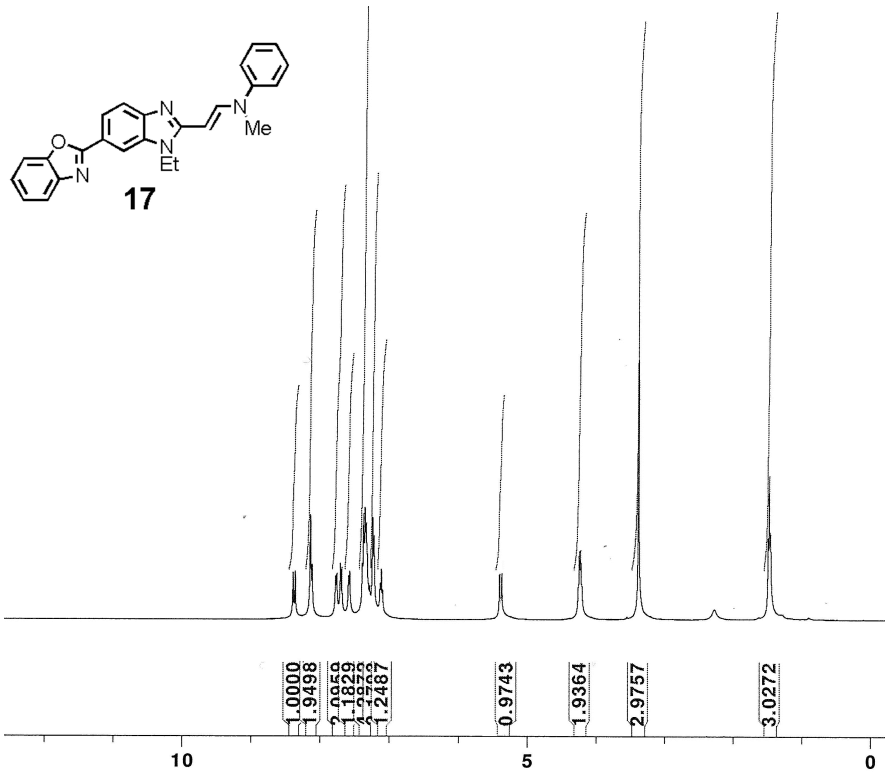

Figure S20. ^{1}H NMR (400 MHz) of a solution of **17** in $CDCl_3$.

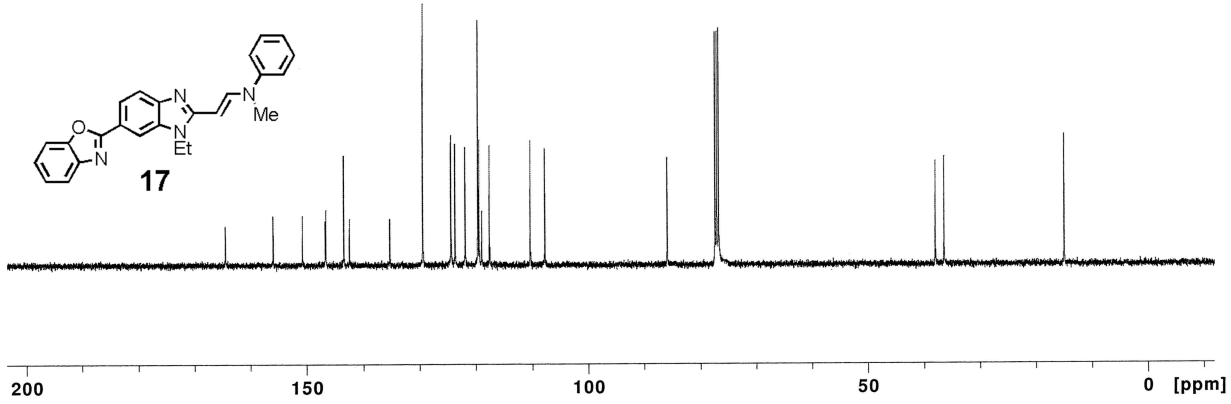

Figure S21. ^{13}C NMR (100 MHz) of a solution of **17** in $CDCl_3$.

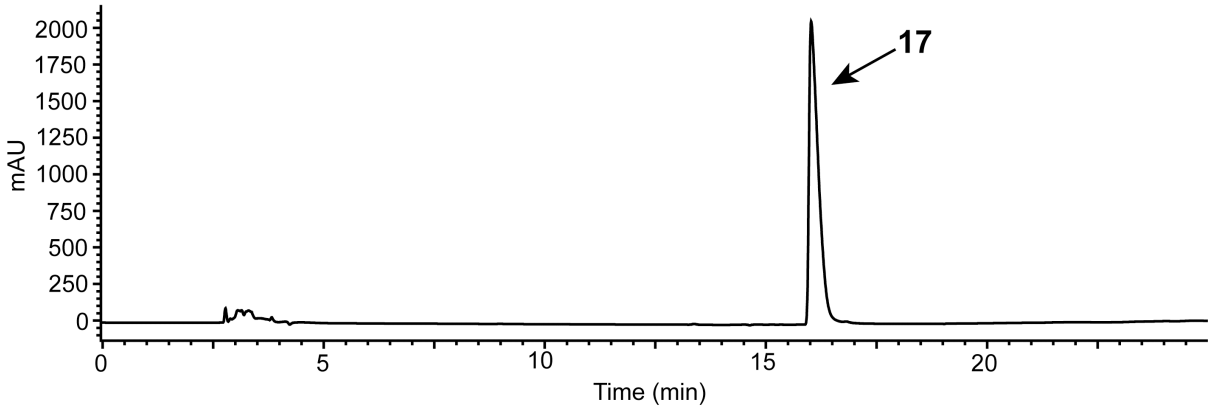

Figure S22. Analytical reverse-phase HPLC profile of compound **17** prior to bioassay. Retention time = 14.7 min. Purity = >99%. Absorbance wavelength = 254 nm.

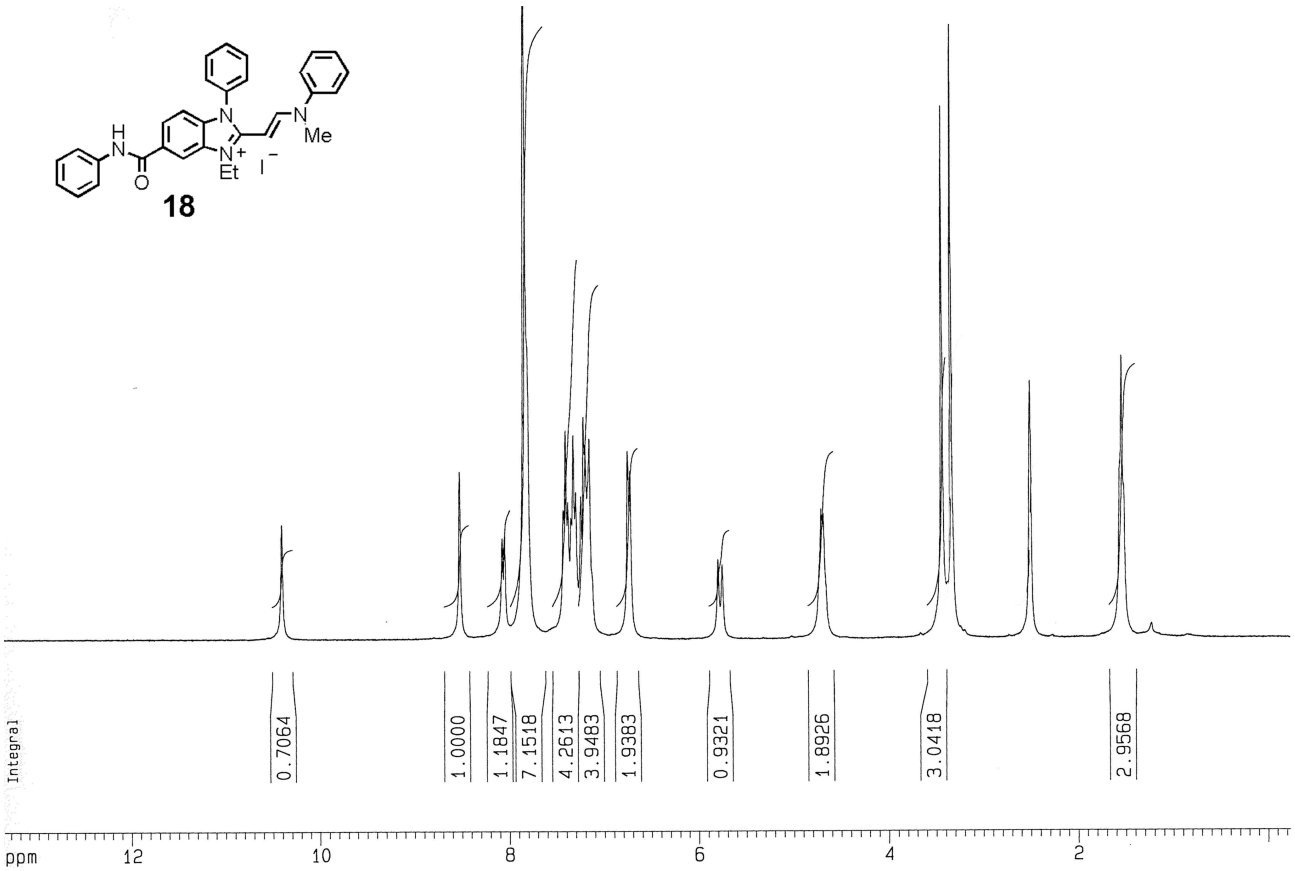

Figure S23. ^{1}H NMR (400 MHz) of a solution of **18** in $CDCl_3$.

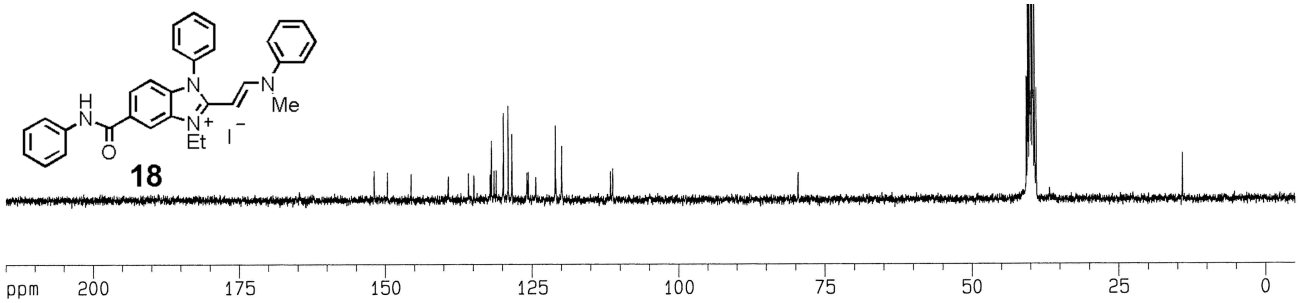

Figure S24. ^{13}C NMR (100 MHz) of a solution of **18** in $CDCl_3$.

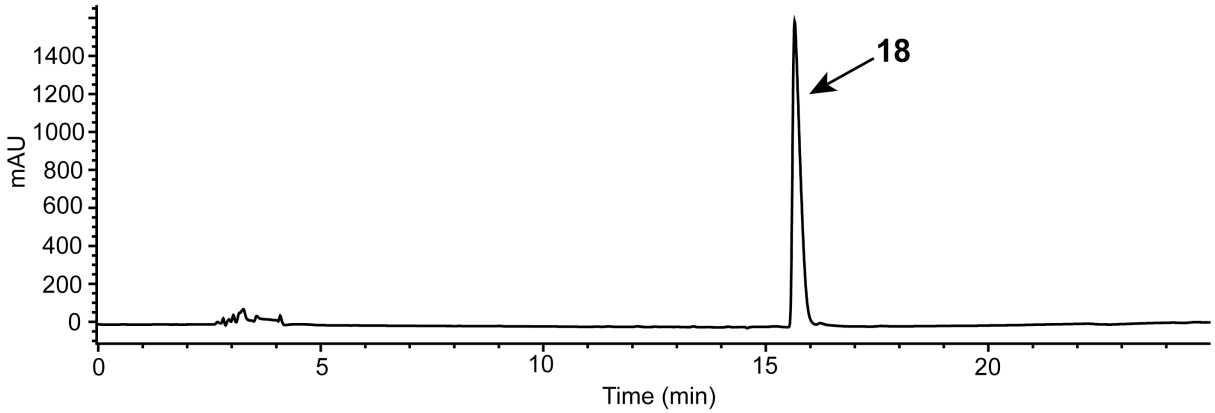

Figure S25. Analytical reverse-phase HPLC profile of compound **18** prior to bioassay. Retention time = 15.6 min. Purity = 99%. Absorbance wavelength = 254 nm.

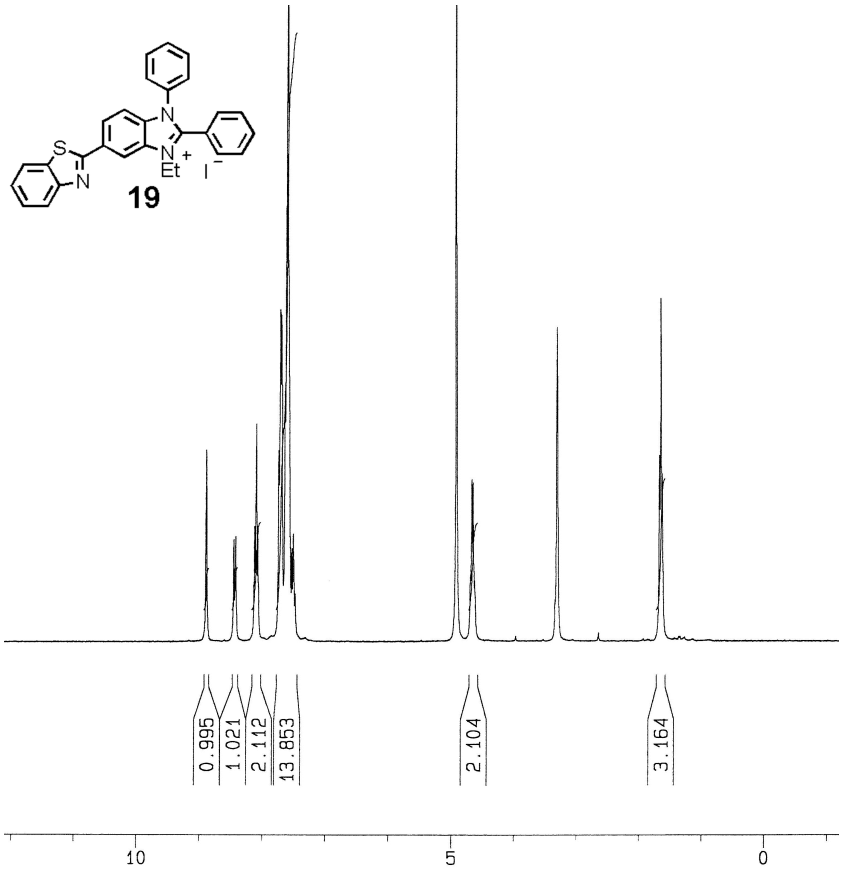

Figure S26. ^{1}H NMR (400 MHz) of a solution of **19** in CD_3OD.

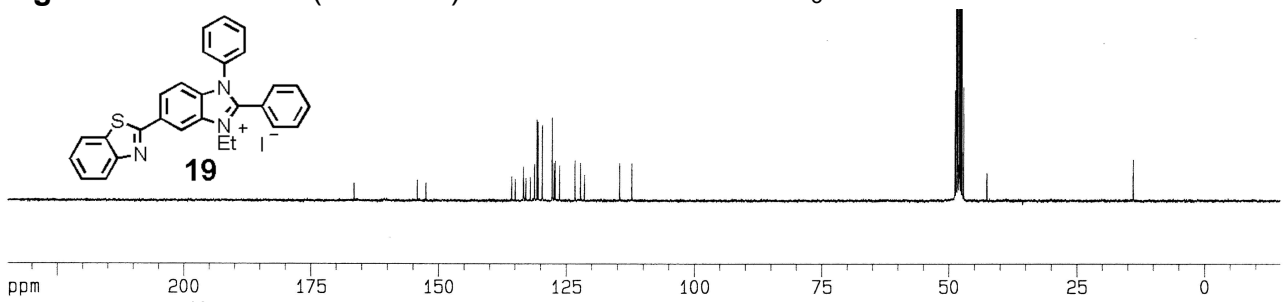

Figure S27. ^{13}C NMR (100 MHz) of a solution of **19** in CD_3OD.

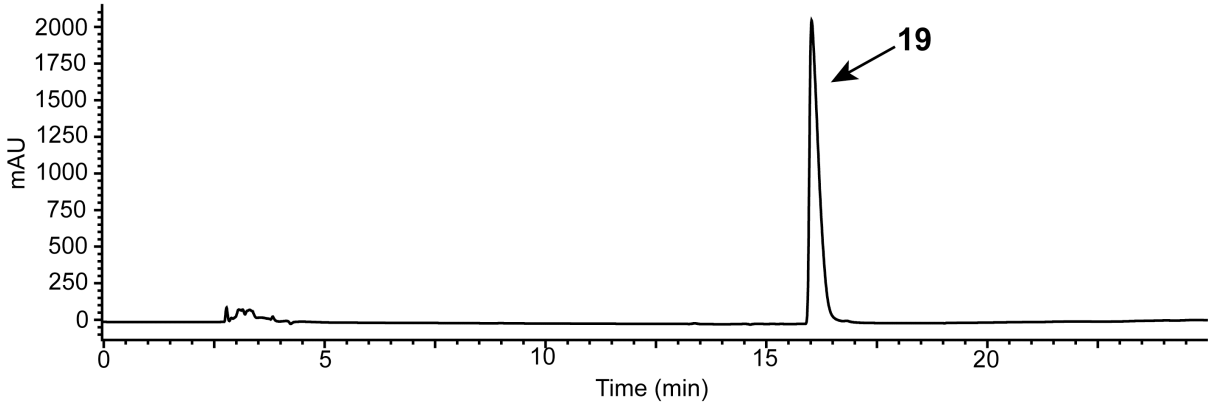

Figure S28. Analytical reverse-phase HPLC profile of compound **19** prior to bioassay. Retention time = 16.0 min. Purity = 99%. Absorbance wavelength = 254 nm.

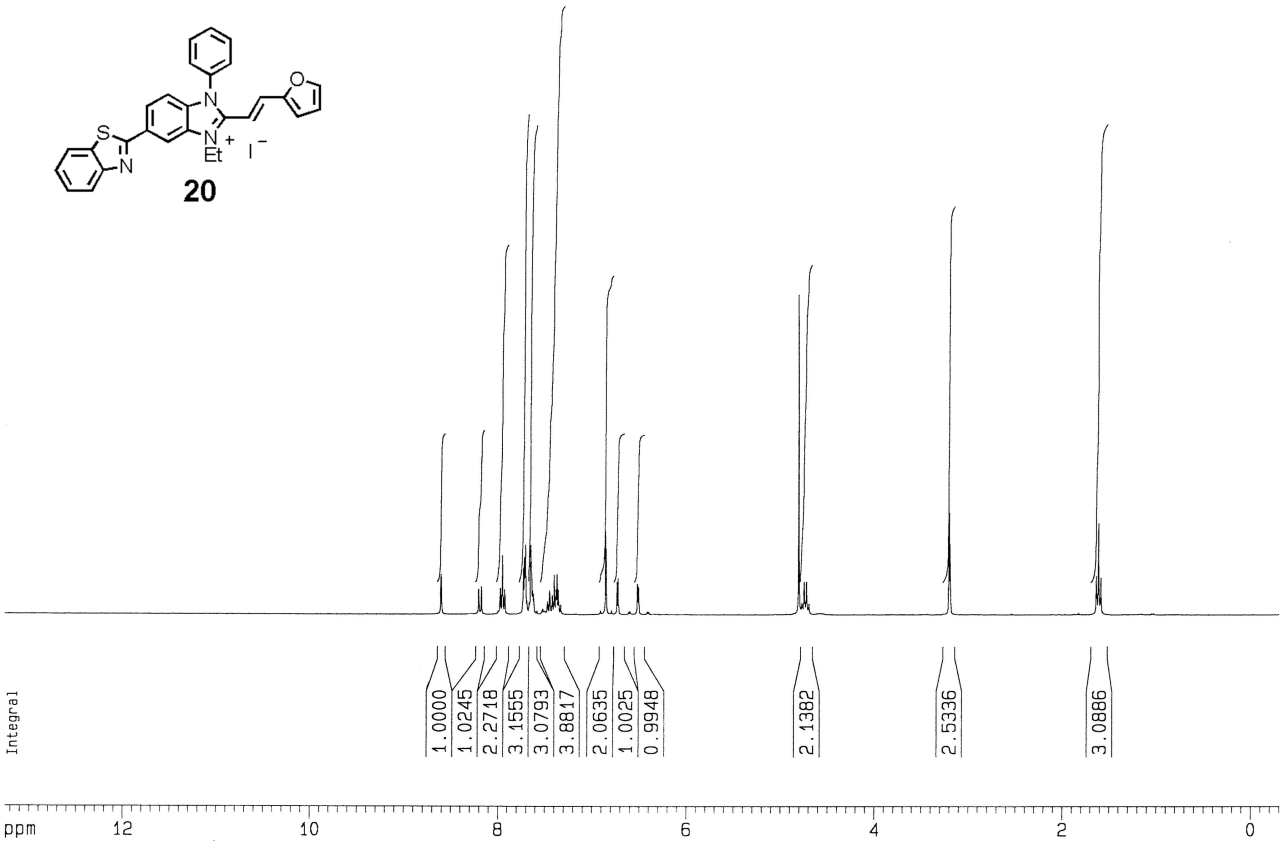

Figure S29. ^{1}H NMR (400 MHz) of a solution of **20** in CD_3OD.

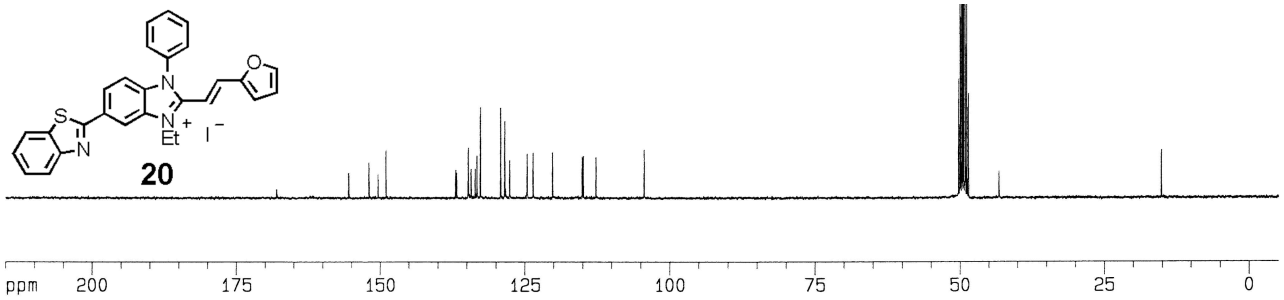

Figure S30. ^{13}C NMR (100 MHz) of a solution of **20** in CD_3OD.

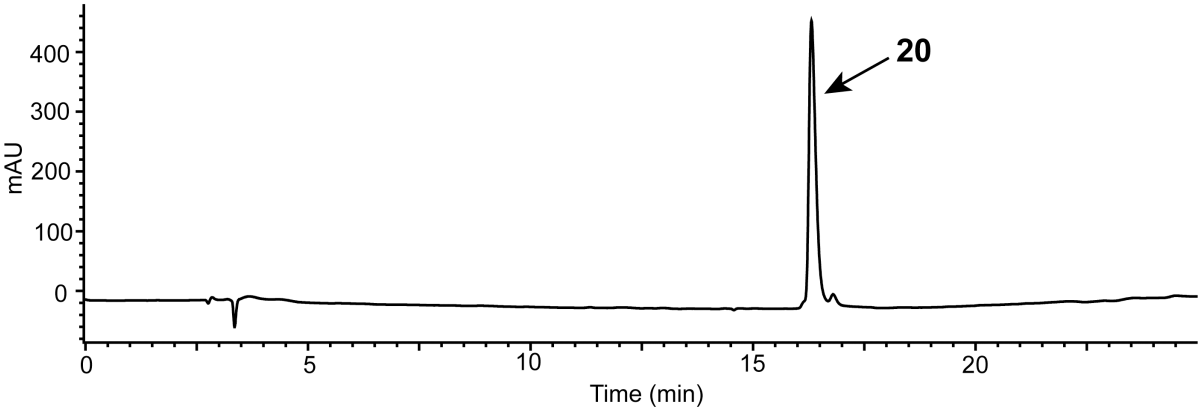

Figure S31. Analytical reverse-phase HPLC profile of compound **20** prior to bioassay. Retention time = 16.3 min. Purity = 98%. Absorbance wavelength = 254 nm.

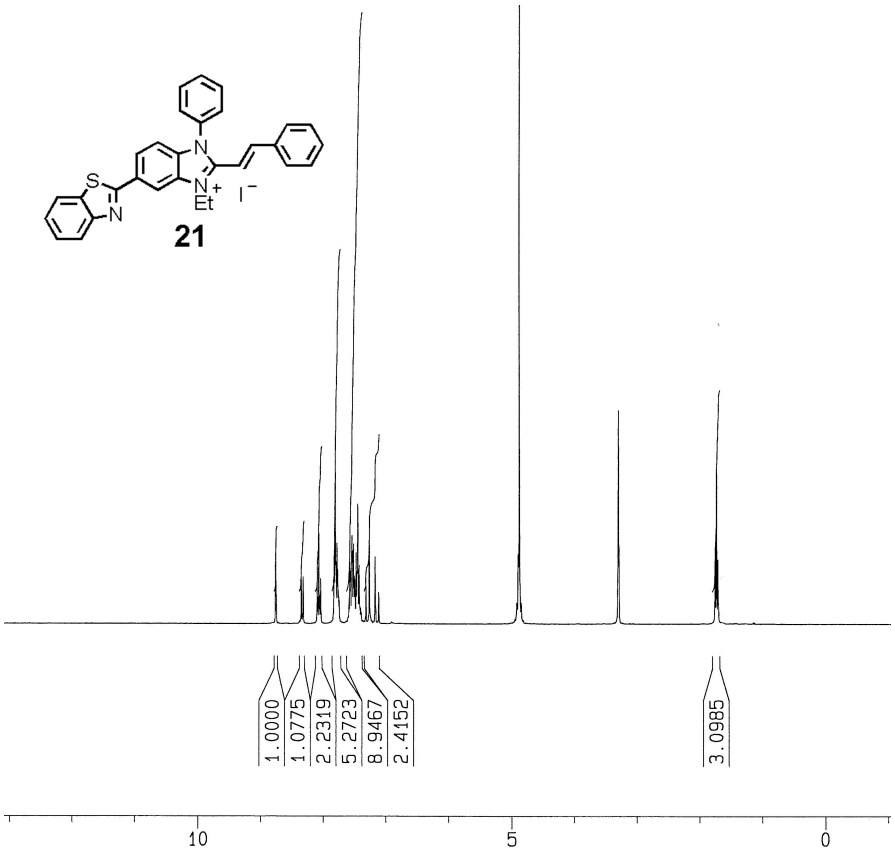

Figure S32. ^{1}H NMR (400 MHz) of a solution of **21** in CD_3OD.

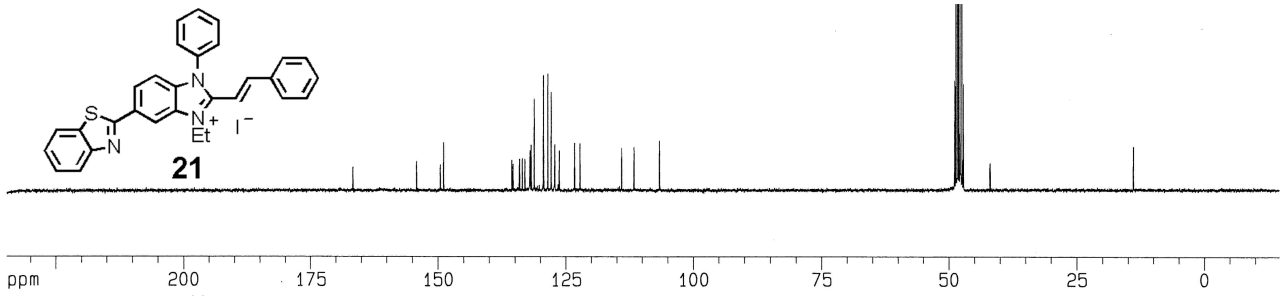

Figure S33. ^{13}C NMR (100 MHz) of a solution of **21** in CD_3OD.

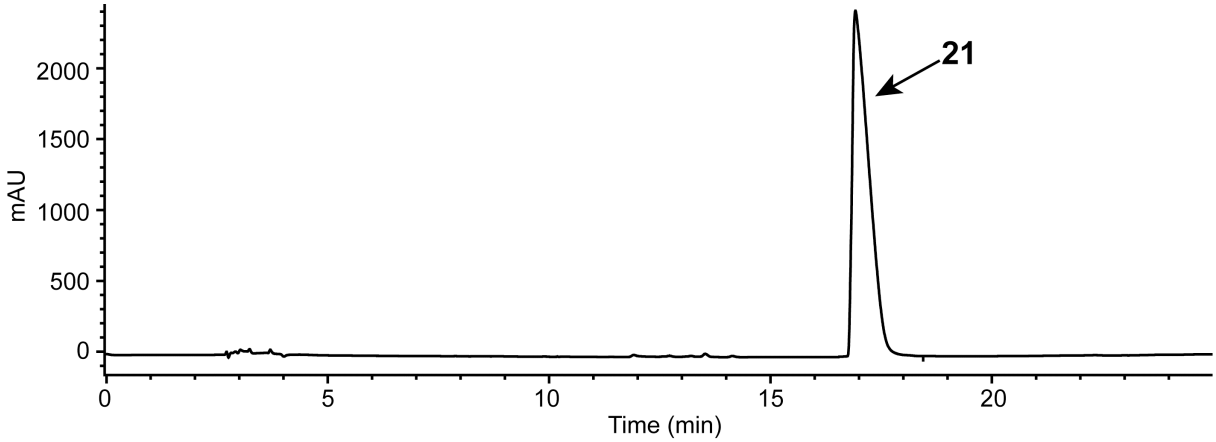

Figure S34. Analytical reverse-phase HPLC profile of compound **21** prior to bioassay. Retention time = 16.9 min. Purity = 99%. Absorbance wavelength = 254 nm.

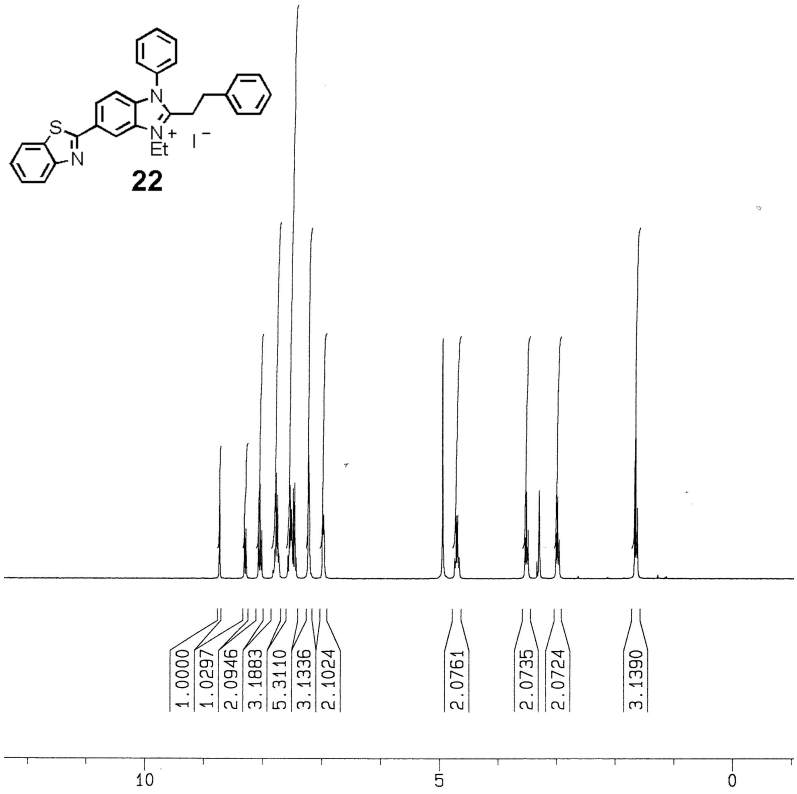

Figure S35. ^{1}H NMR (400 MHz) of a solution of **22** in CD_3OD.

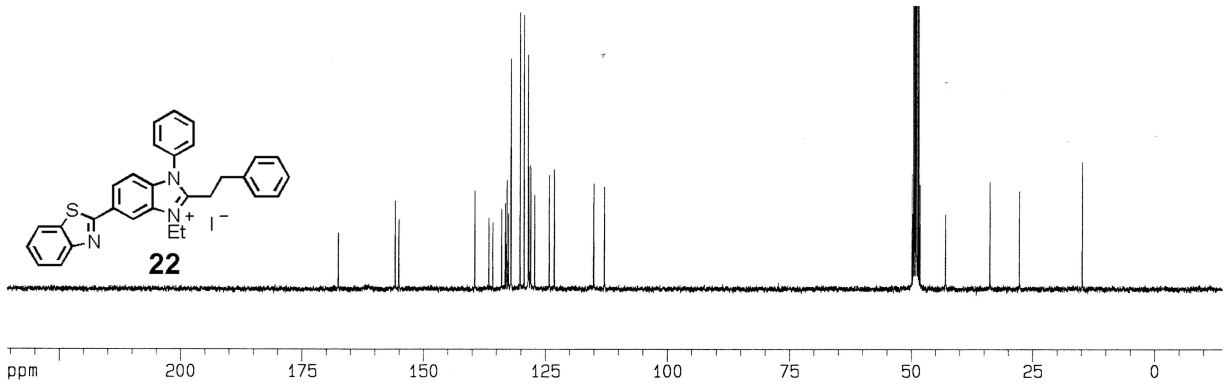

Figure S36. ^{13}C NMR (100 MHz) of a solution of **22** in CD_3OD.

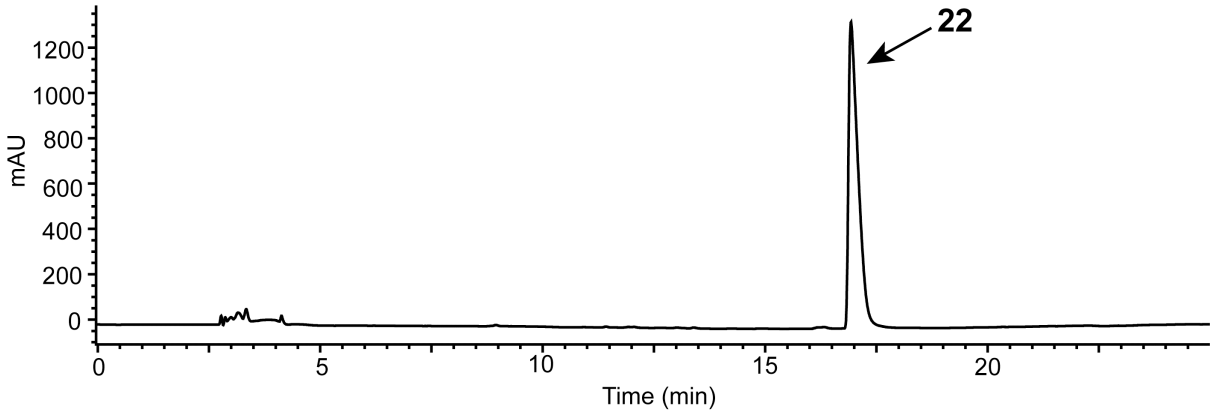

Figure S37. Analytical reverse-phase HPLC profile of compound **22** prior to bioassay. Retention time = 16.9 min. Purity = 99%. Absorbance wavelength = 254 nm.

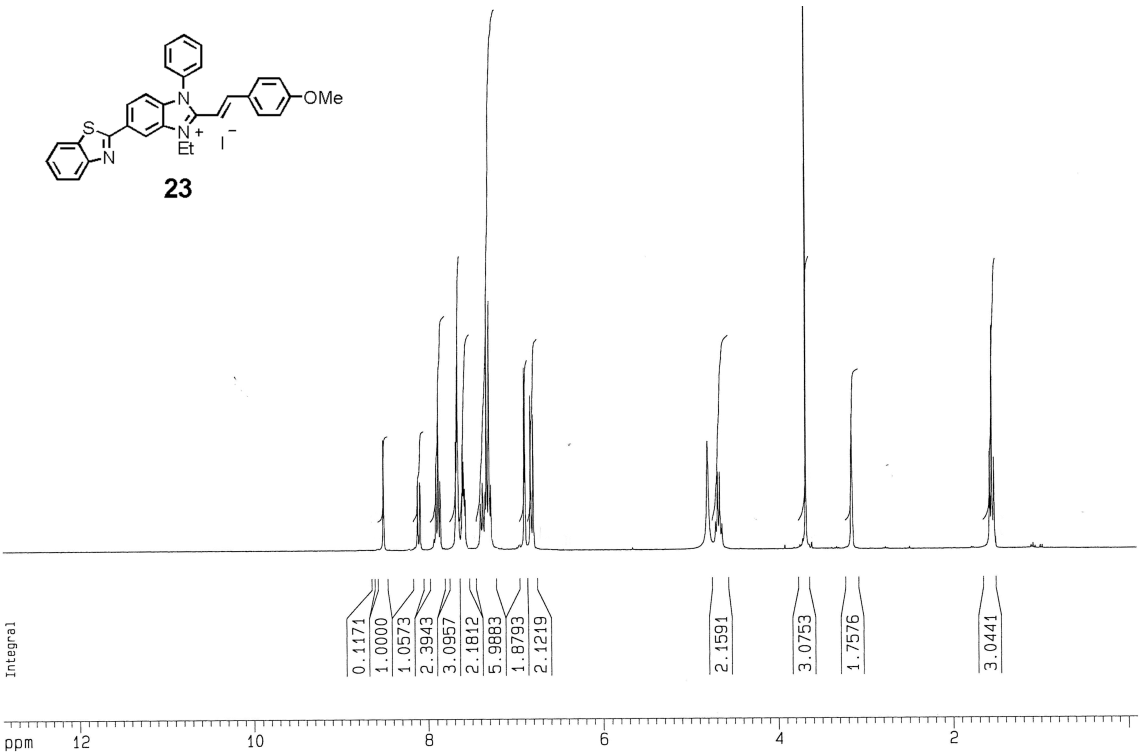

Figure S38 ^{1}H NMR (400 MHz) of a solution of **23** in CD_3OD.

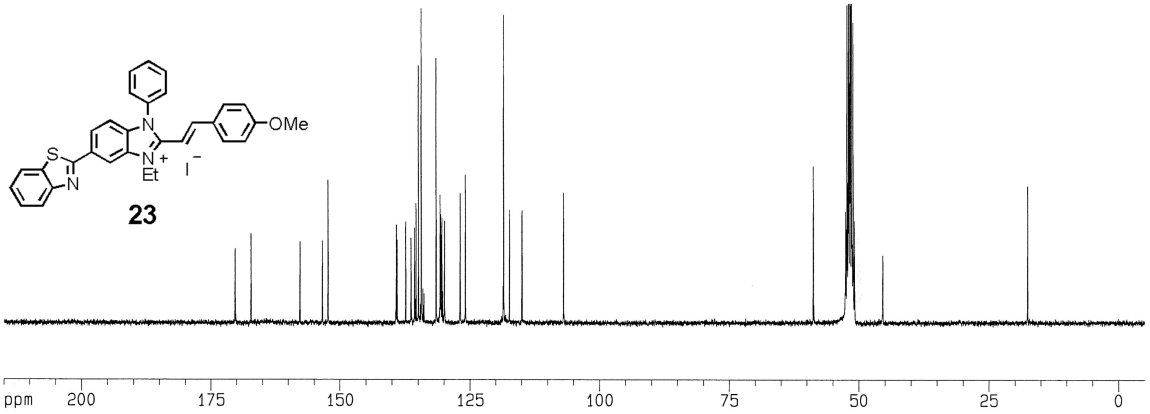

Figure S39. ^{13}C NMR (100 MHz) of a solution of **23** in CD_3OD.

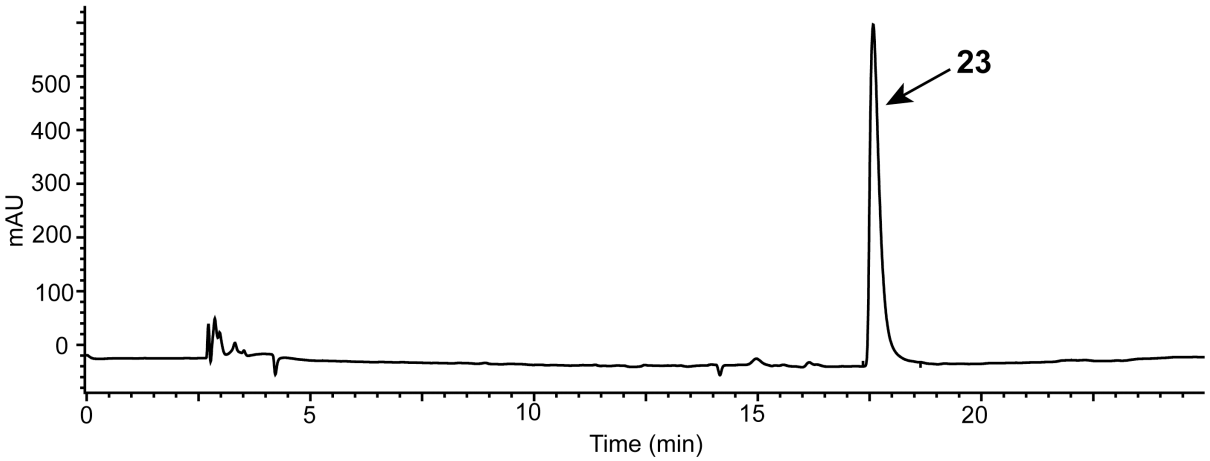

Figure S40. Analytical reverse-phase HPLC profile of compound **23** prior to bioassay. Retention time = 17.6 min. Purity = 98%. Absorbance wavelength = 254 nm.

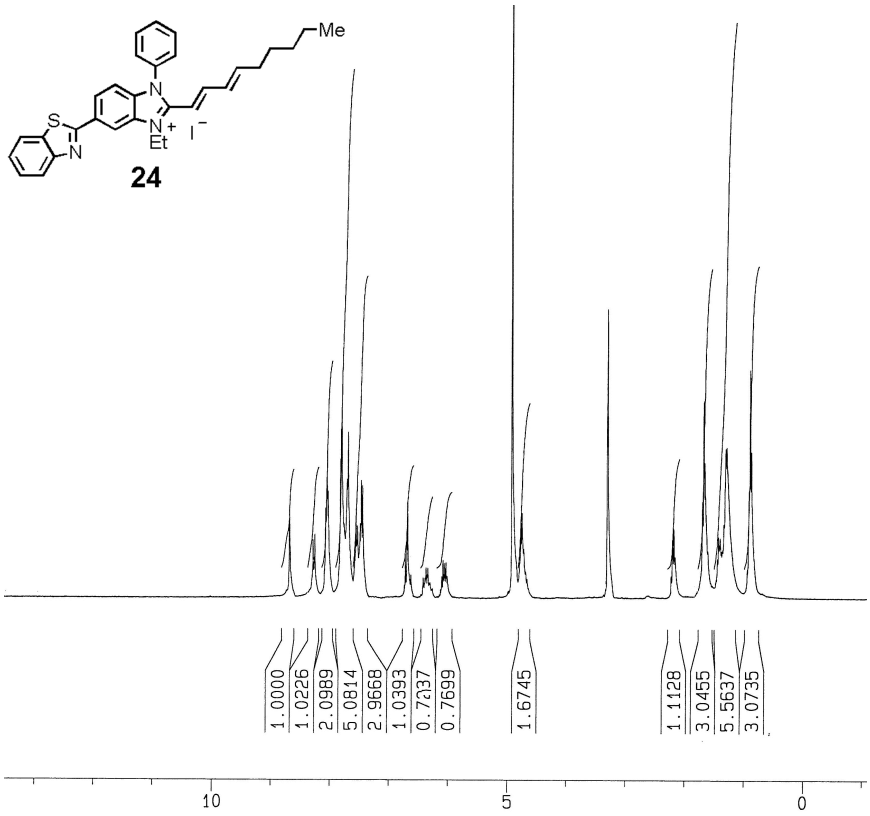

Figure S41. ^{1}H NMR (400 MHz) of a solution of **24** in CD_3OD.

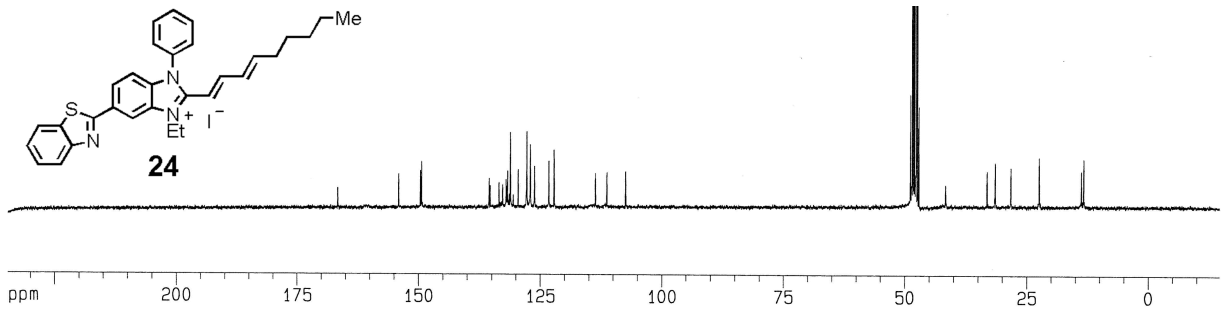

Figure S42. ^{13}C NMR (100 MHz) of a solution of **24** in CD_3OD.

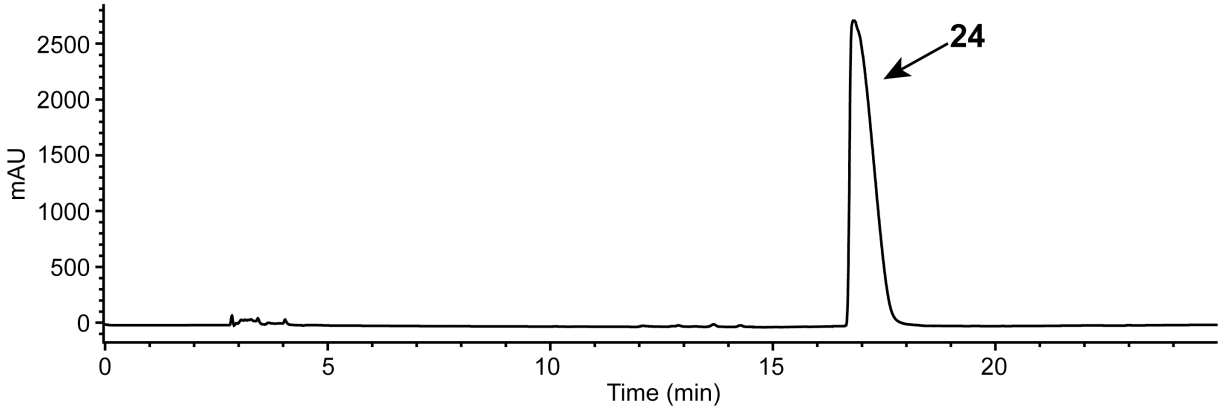

Figure S43. Analytical reverse-phase HPLC profile of compound **24** prior to bioassay. Retention time = 16.8 min. Purity = 99%. Absorbance wavelength = 254 nm.

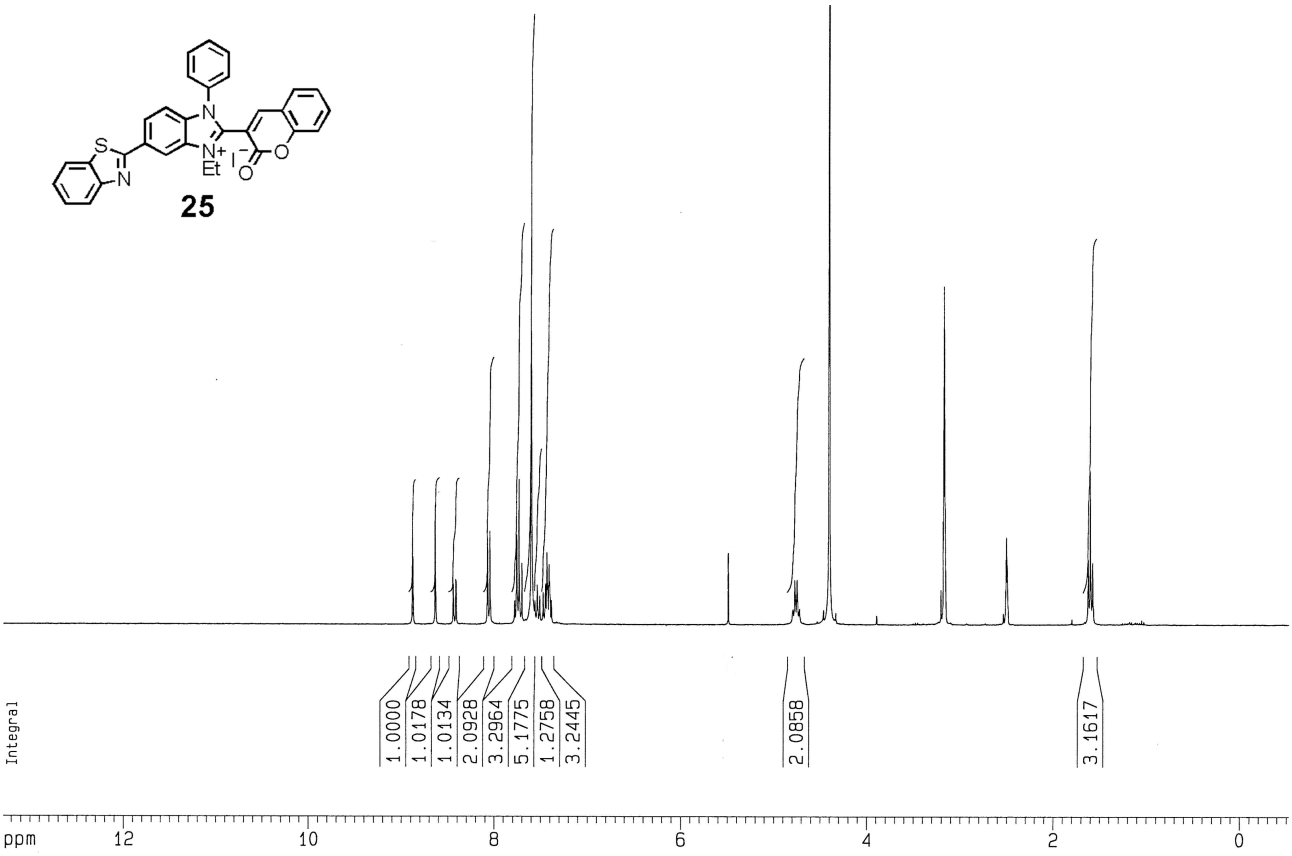

Figure S44. ^{1}H NMR (400 MHz) of a solution of **25** in $(CD_3)_2SO$.

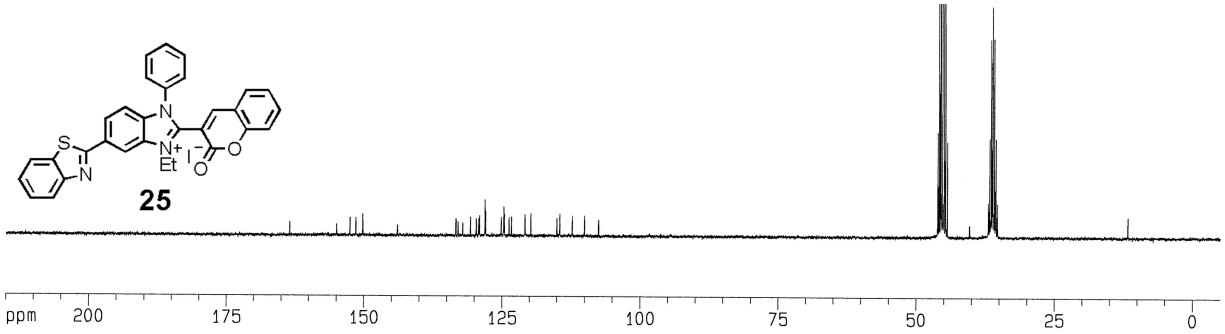

Figure S45. ^{13}C NMR (100 MHz) of a solution of **25** in $CDCl_3$.

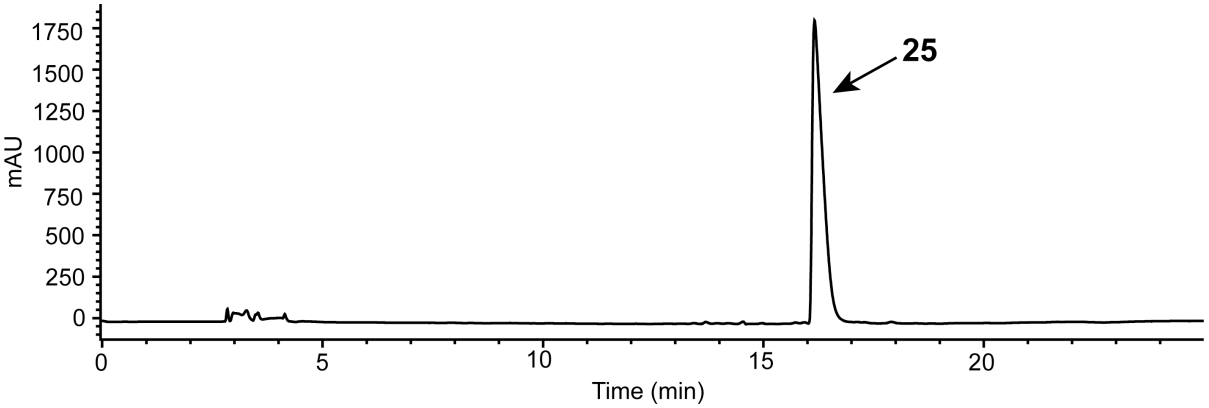

Figure S46. Analytical reverse-phase HPLC profile of compound **25** prior to bioassay. Retention time = 16.2 min. Purity = 98%. Absorbance wavelength = 254 nm.

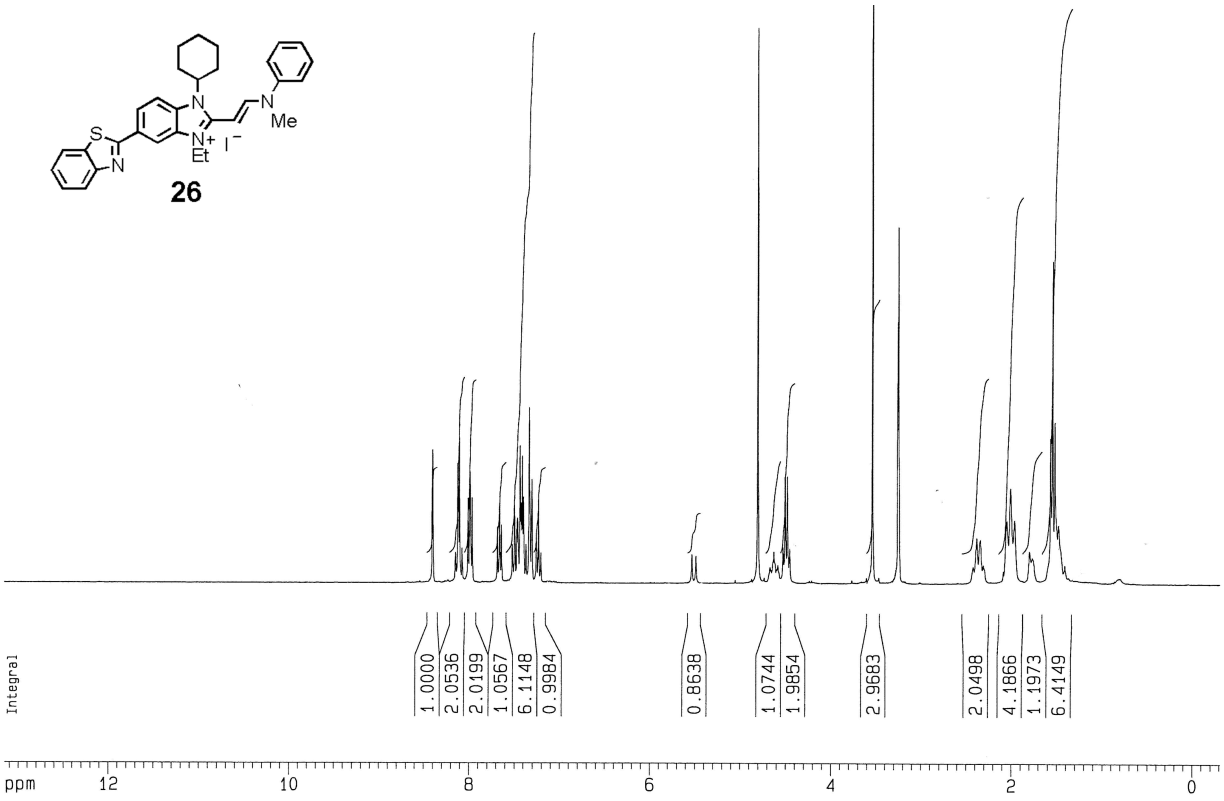

Figure S47. ^{1}H NMR (400 MHz) of a solution of **26** in CD_3OD.

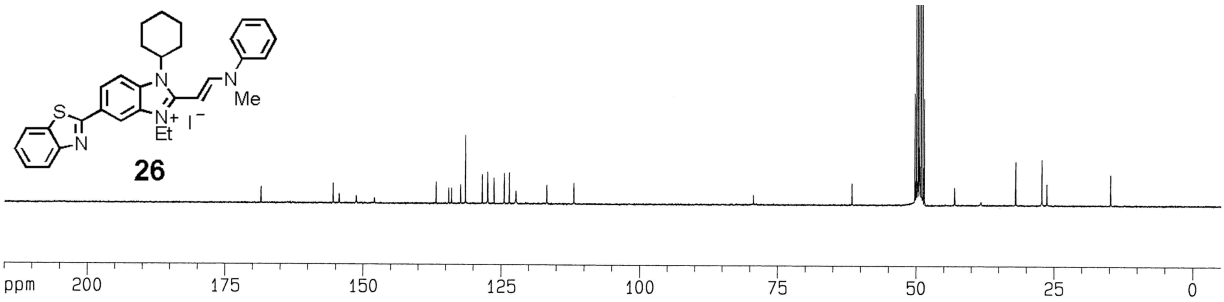

Figure S48. ^{13}C NMR (100 MHz) of a solution of **26** in CD_3OD.

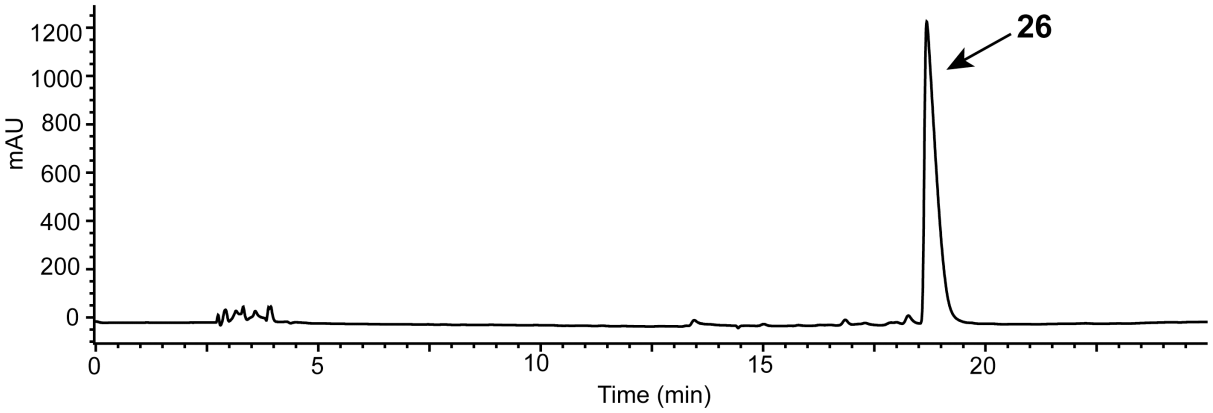

Figure S49. Analytical reverse-phase HPLC profile of compound **26** prior to bioassay. Retention time = 18.7 min. Purity = 98%. Absorbance wavelength = 254 nm.

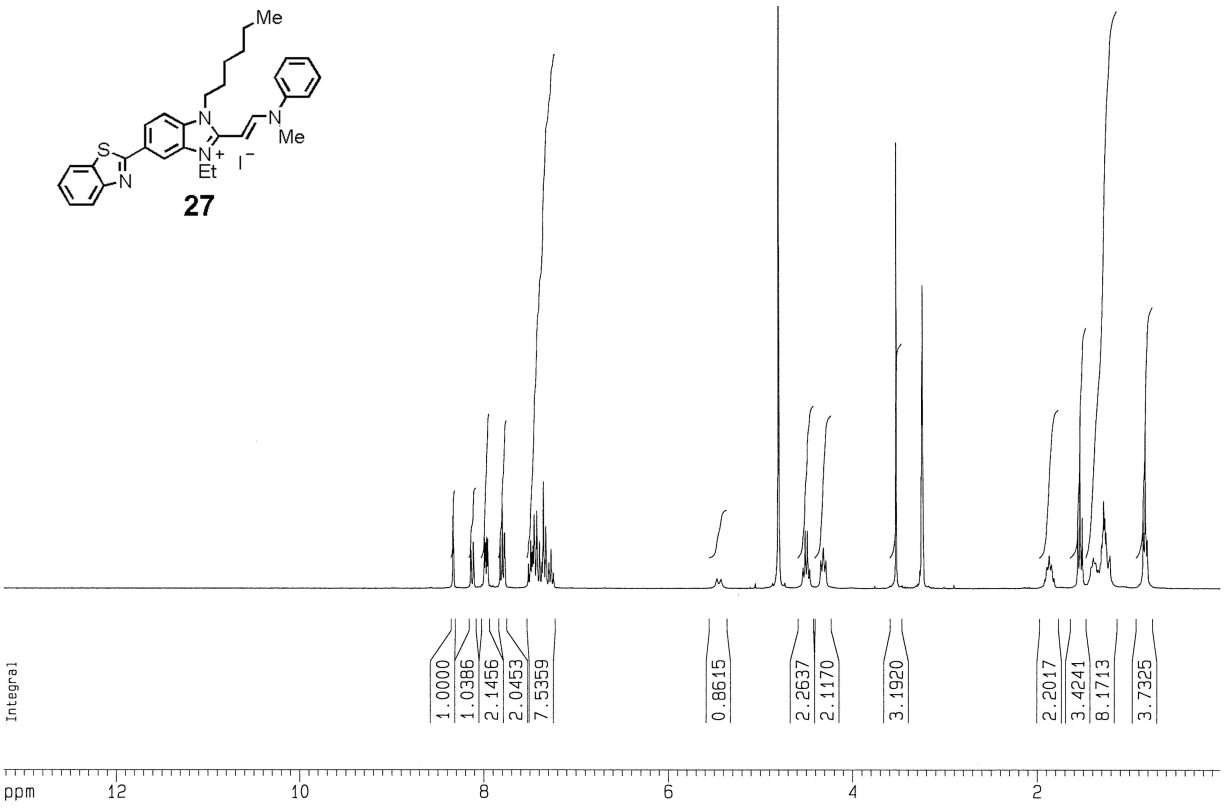

Figure S50. ^{1}H NMR (400 MHz) of a solution of **27** in CD_3OD.

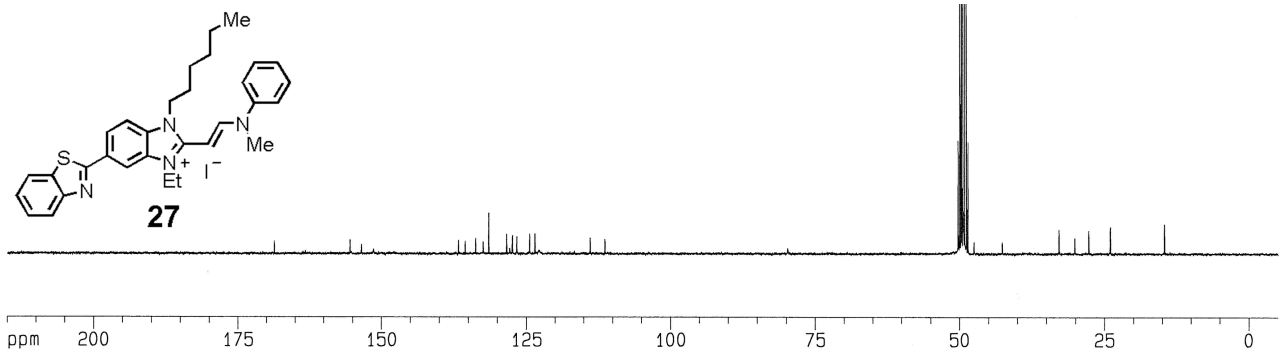

Figure S51. ^{13}C NMR (100 MHz) of a solution of **27** in CD_3OD.

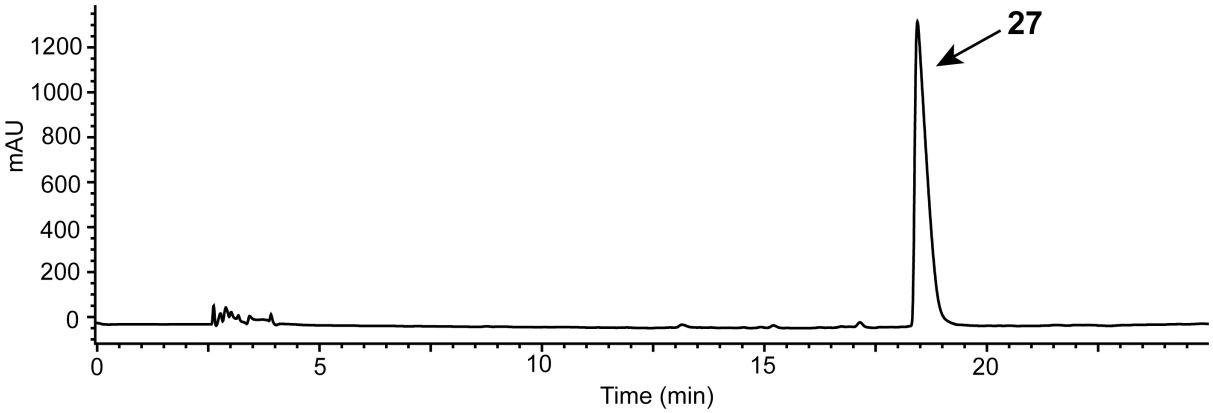

Figure S52. Analytical reverse-phase HPLC profile of compound **27** prior to bioassay. Retention time = 18.4 min. Purity = 98%. Absorbance wavelength = 254 nm.

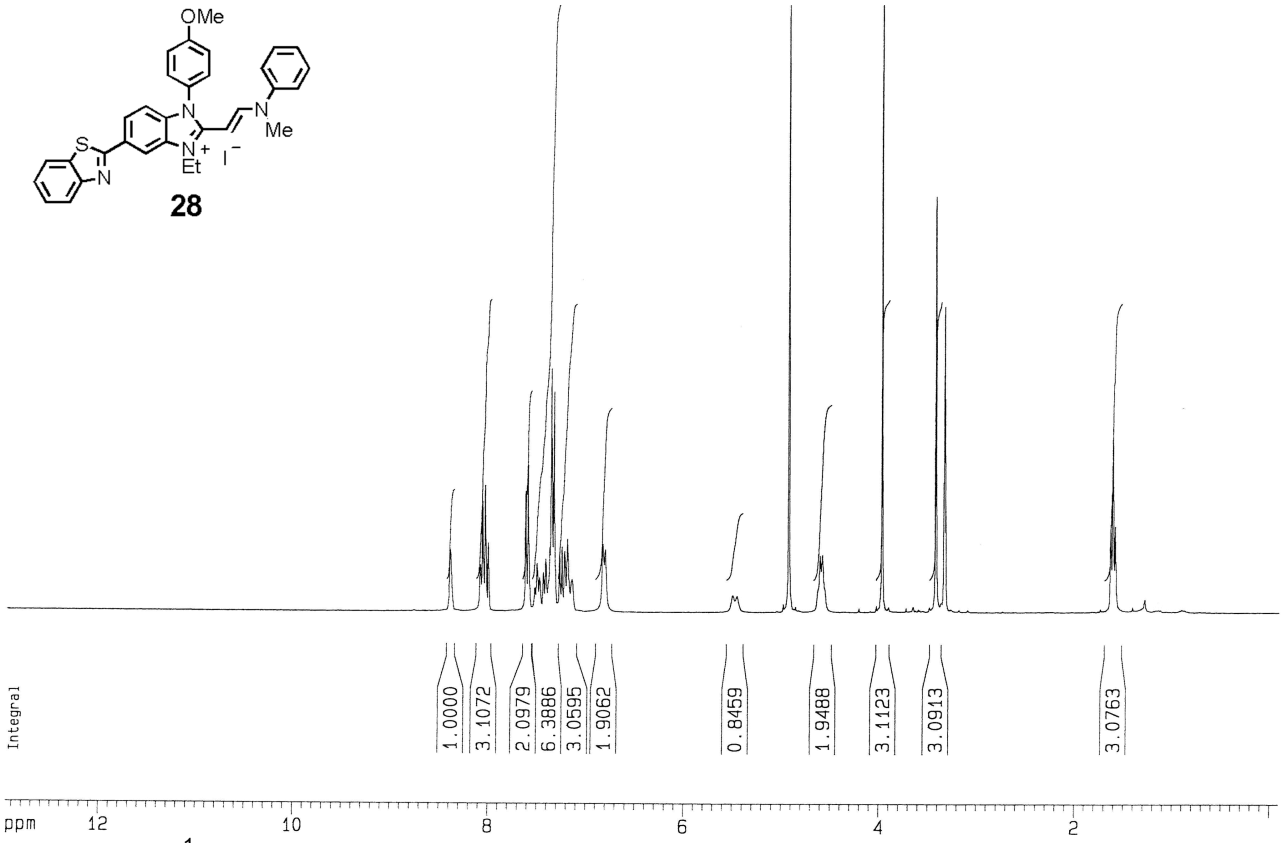

Figure S53. ^{1}H NMR (400 MHz) of a solution of **28** in CD_3OD.

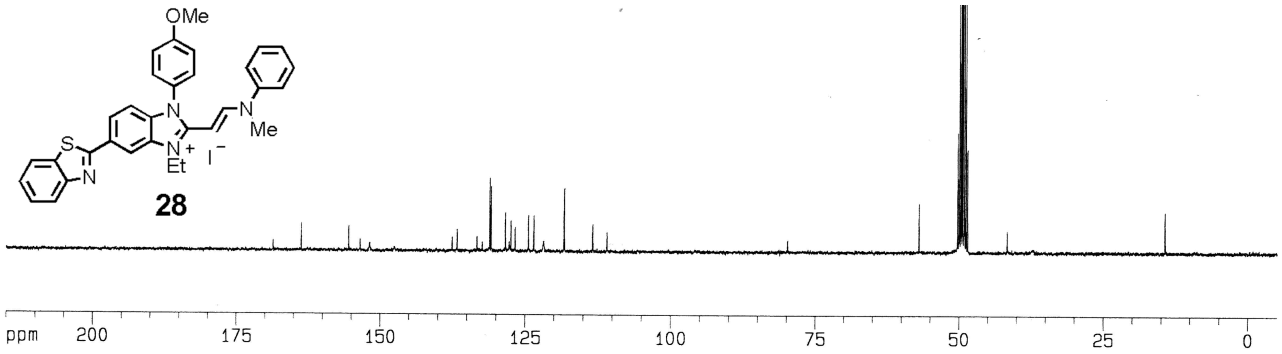

Figure S54. ^{13}C NMR (100 MHz) of a solution of **28** in CD_3OD.

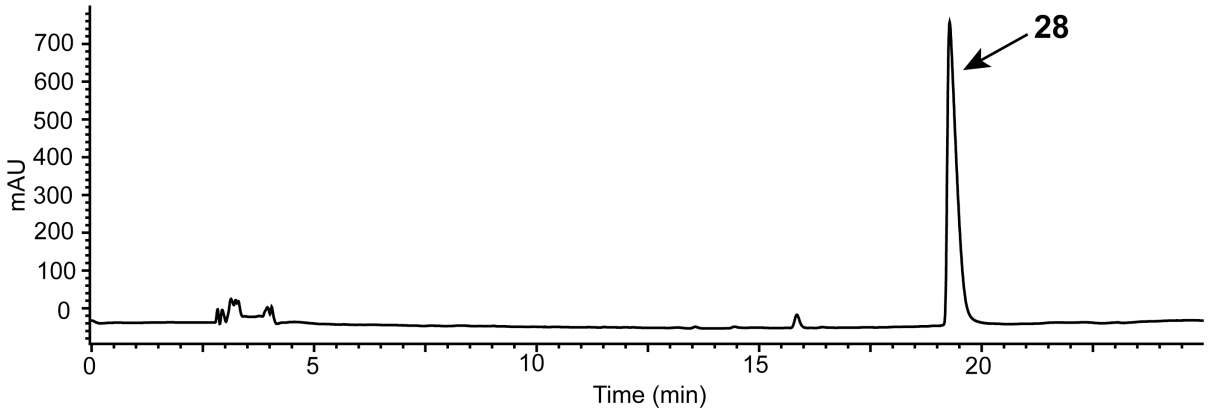

Figure S55. Analytical reverse-phase HPLC profile of compound **28** prior to bioassay. Retention time = 19.3 min. Purity = 98%. Absorbance wavelength = 254 nm.

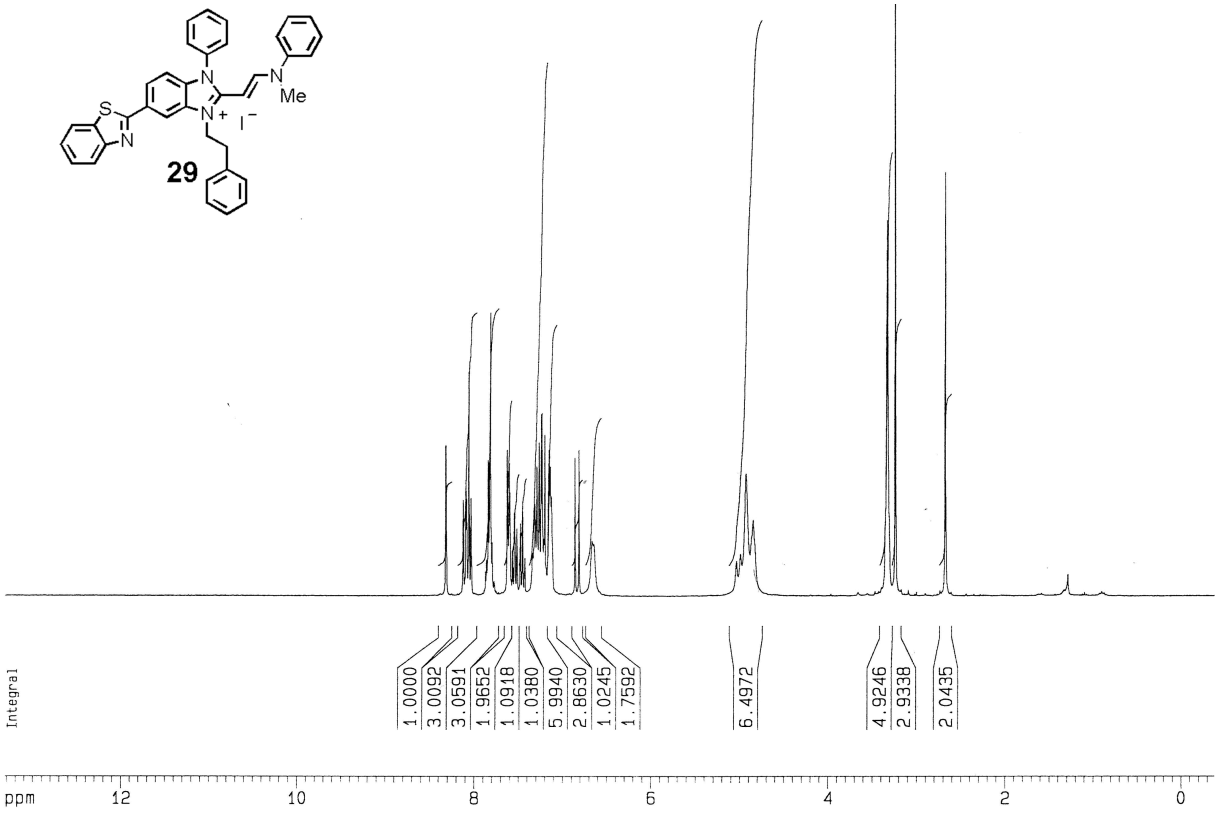

Figure S56. ^{1}H NMR (400 MHz) of a solution of **29** in CD_3OD.

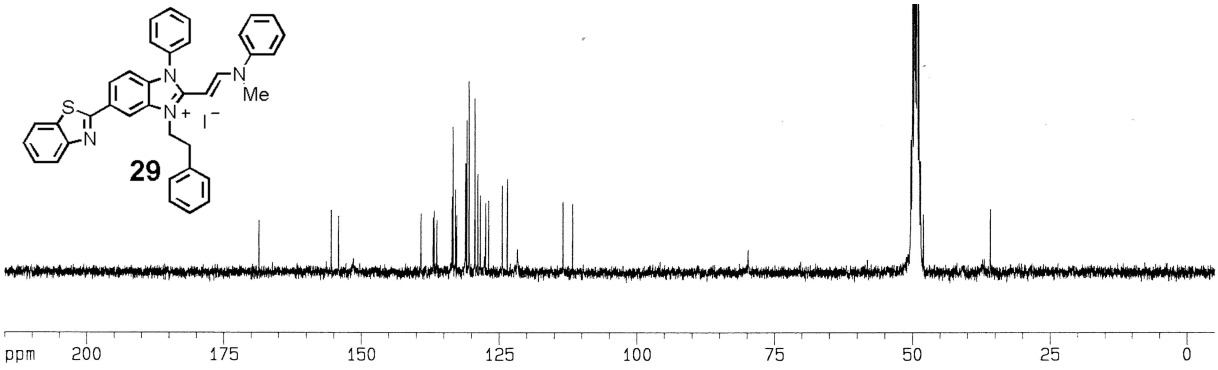

Figure S57. ^{13}C NMR (100 MHz) of a solution of **29** in CD_3OD.

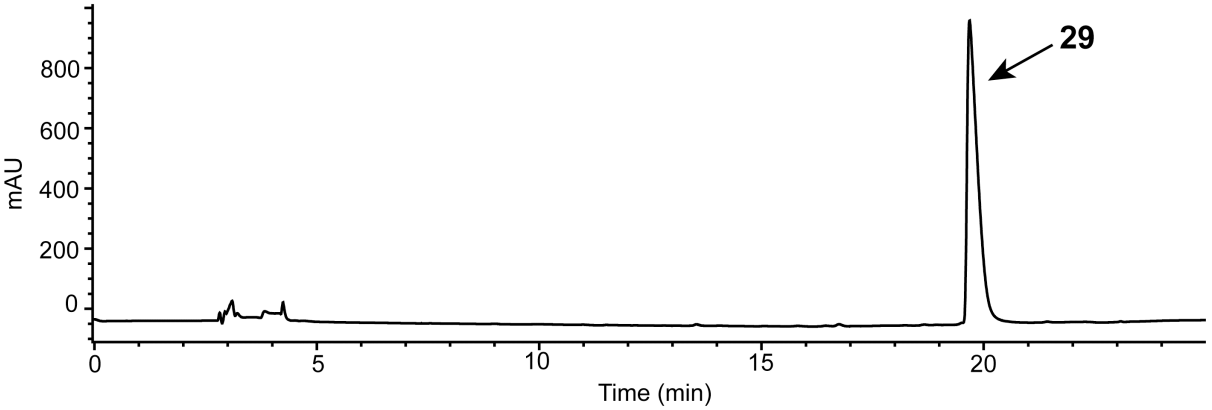

Figure S58. Analytical reverse-phase HPLC profile of compound **29** prior to bioassay. Retention time = 19.7 min. Purity = 99%. Absorbance wavelength = 254 nm.

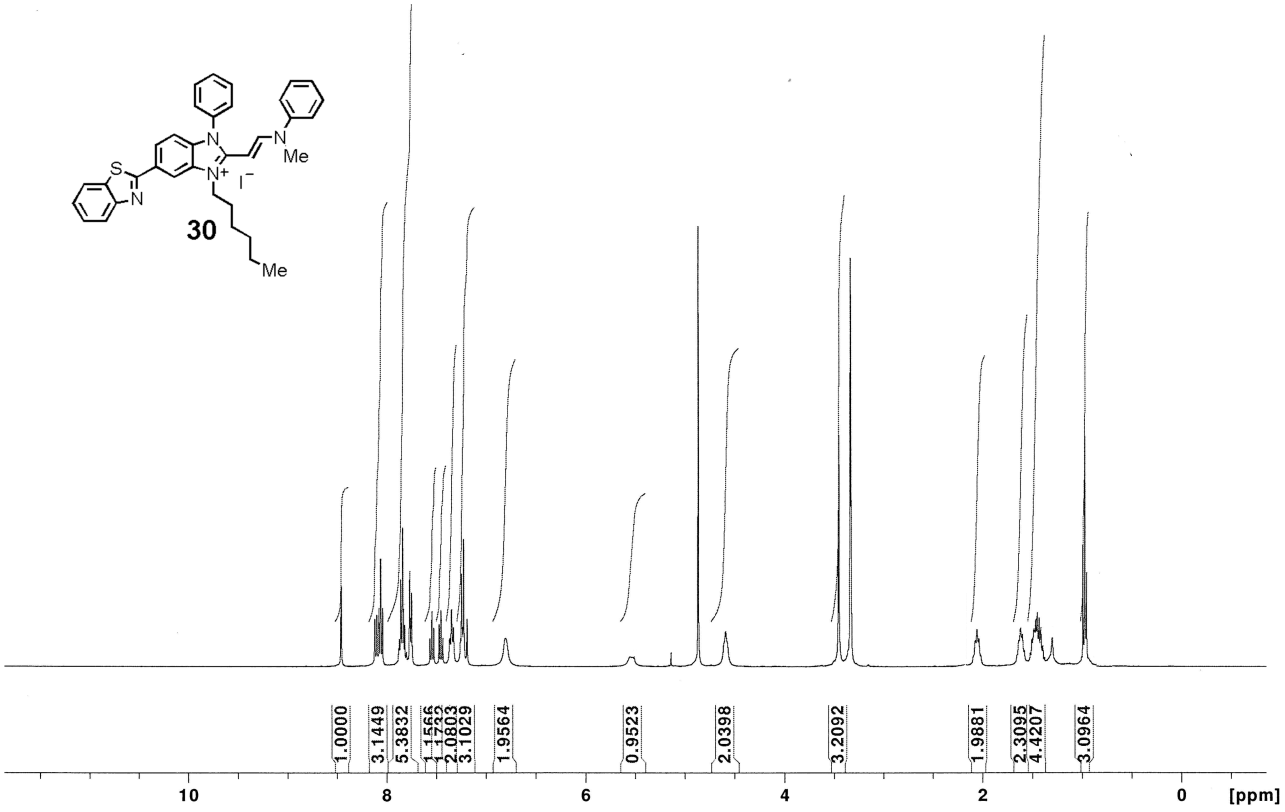

Figure S59. ^{1}H NMR (400 MHz) of a solution of **30** in CD_3OD.

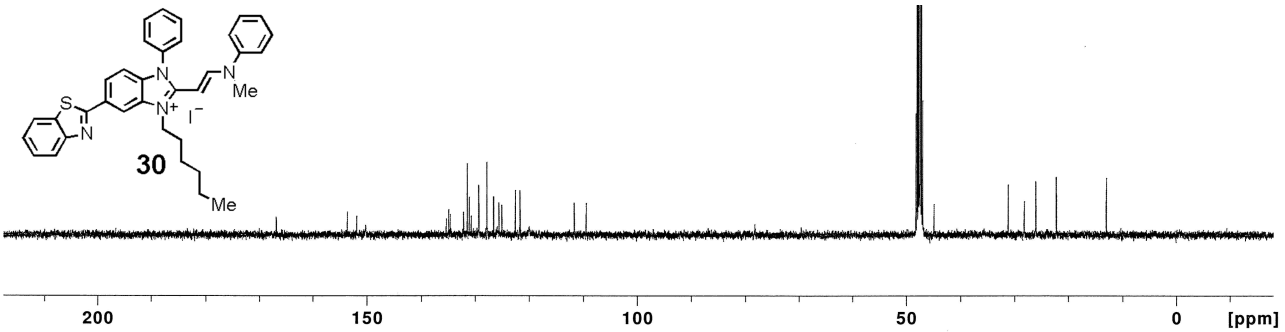

Figure S60. ^{13}C NMR (100 MHz) of a solution of **30** in CD_3OD.

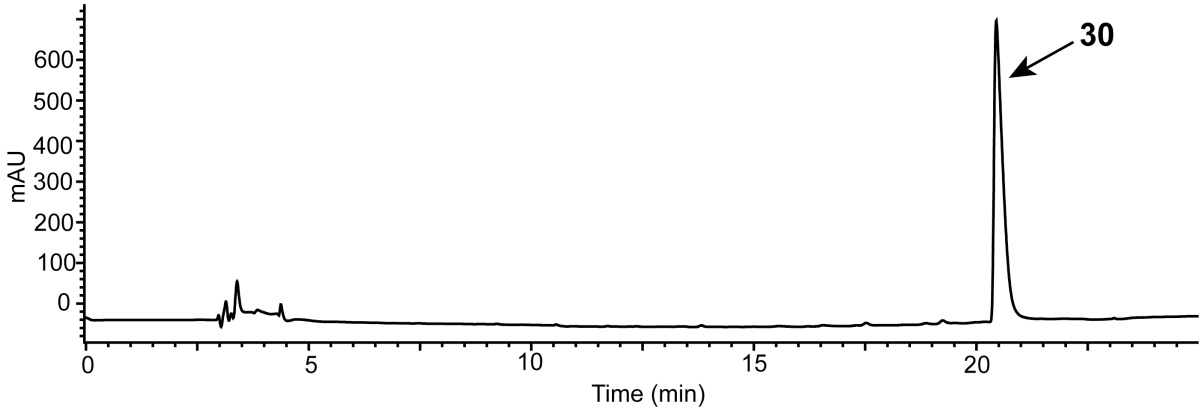

Figure S61. Analytical reverse-phase HPLC profile of compound **30** prior to bioassay. Retention time = 20.4 min. Purity = 98%. Absorbance wavelength = 254 nm.

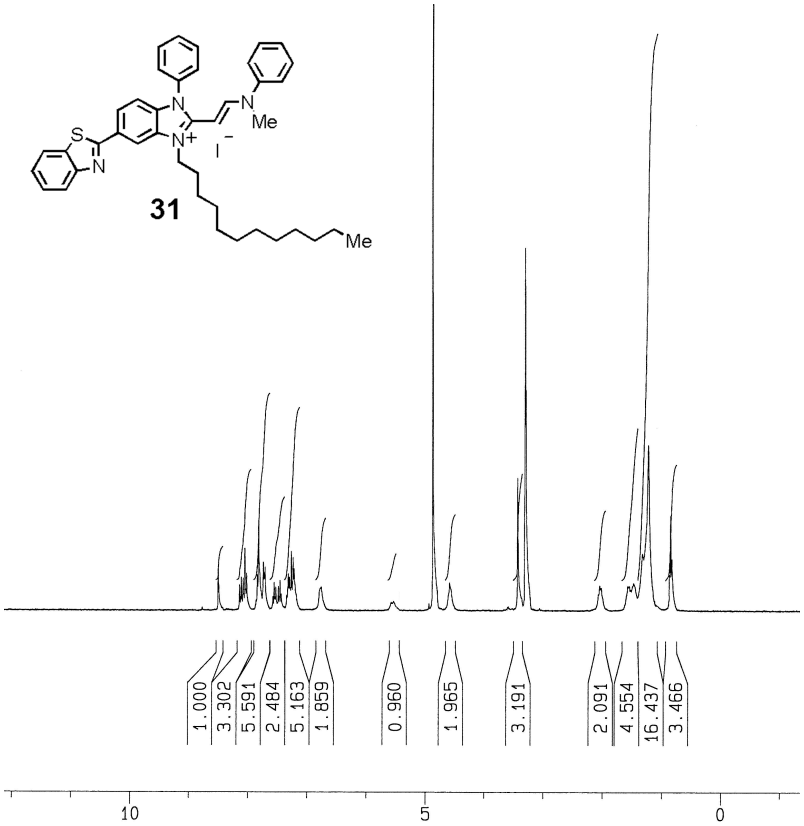

Figure S62. ^{1}H NMR (400 MHz) of a solution of **31** in CD_3OD.

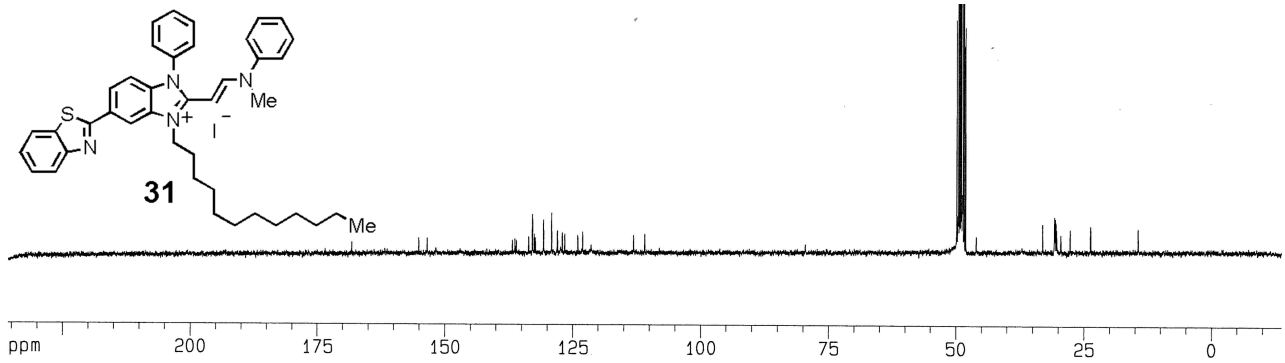

Figure S63. ^{13}C NMR (100 MHz) of a solution of **31** in CD_3OD.

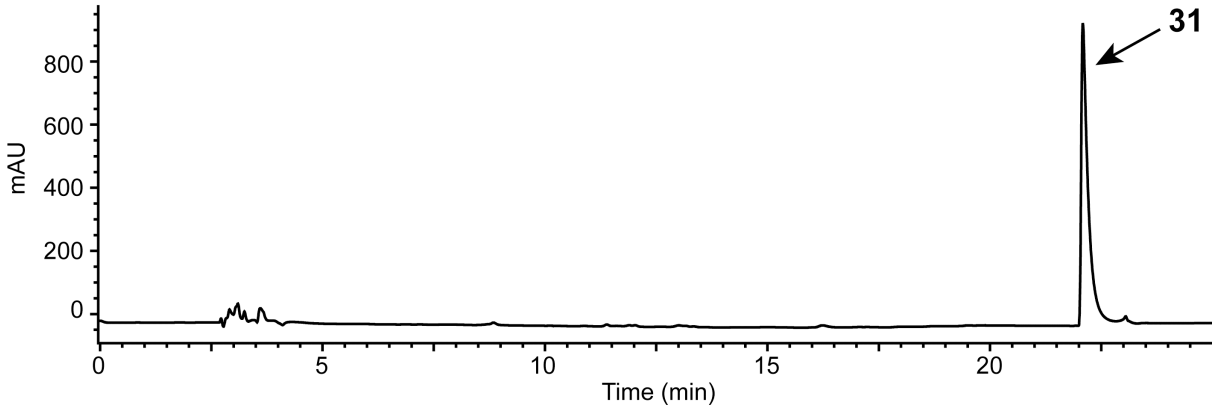

Figure S64. Analytical reverse-phase HPLC profile of compound **31** prior to bioassay. Retention time = 22.2 min. Purity = 98%. Absorbance wavelength = 254 nm.

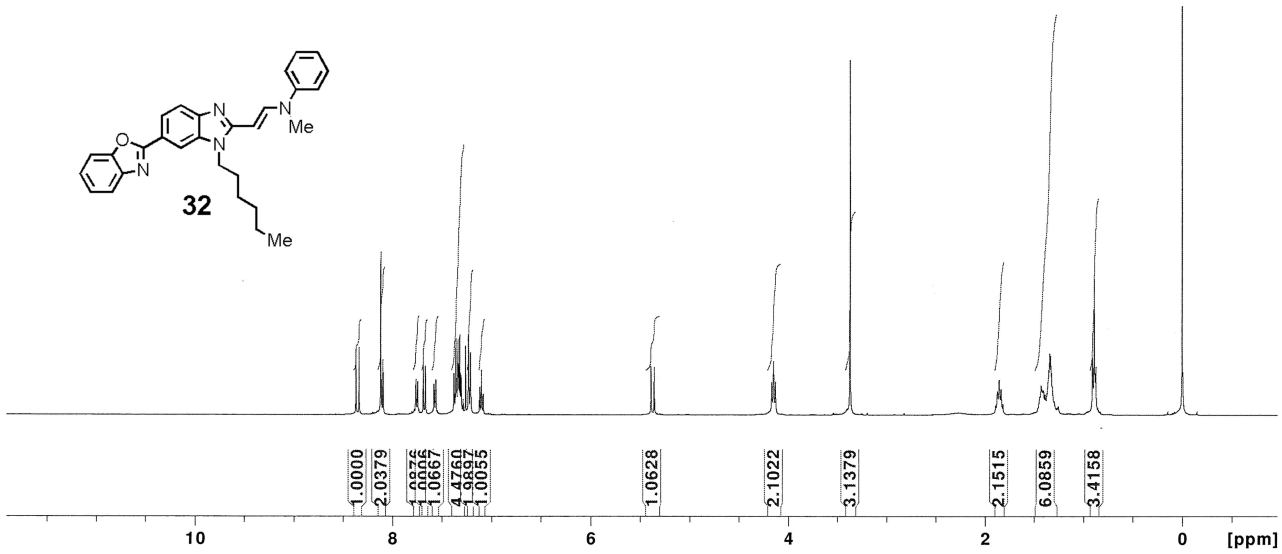

Figure S65. ^{1}H NMR (400 MHz) of a solution of **32** in $CDCl_3$.

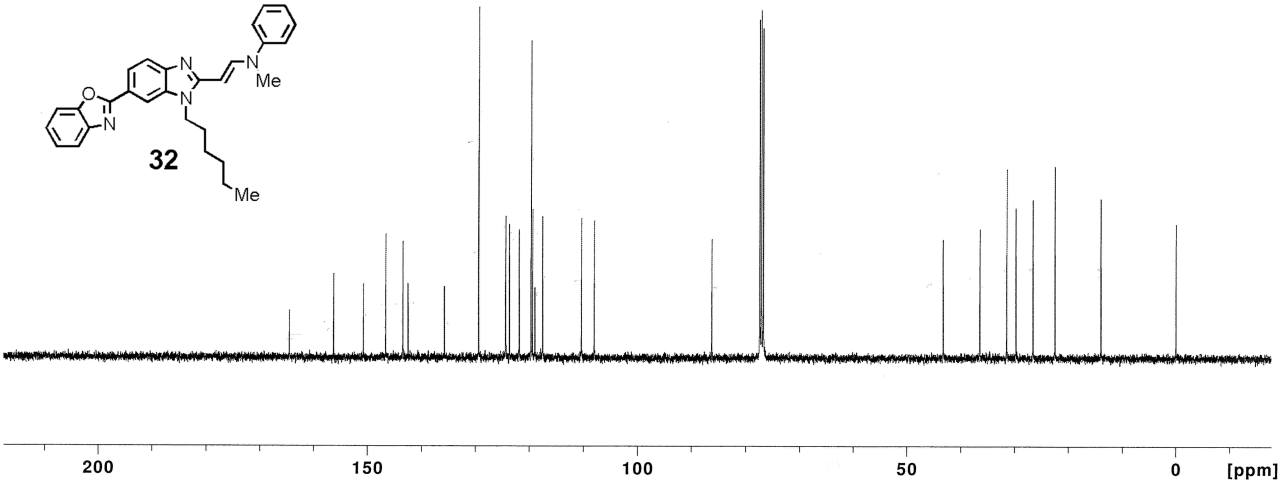

Figure S66. ^{13}C NMR (100 MHz) of a solution of **32** in $CDCl_3$.

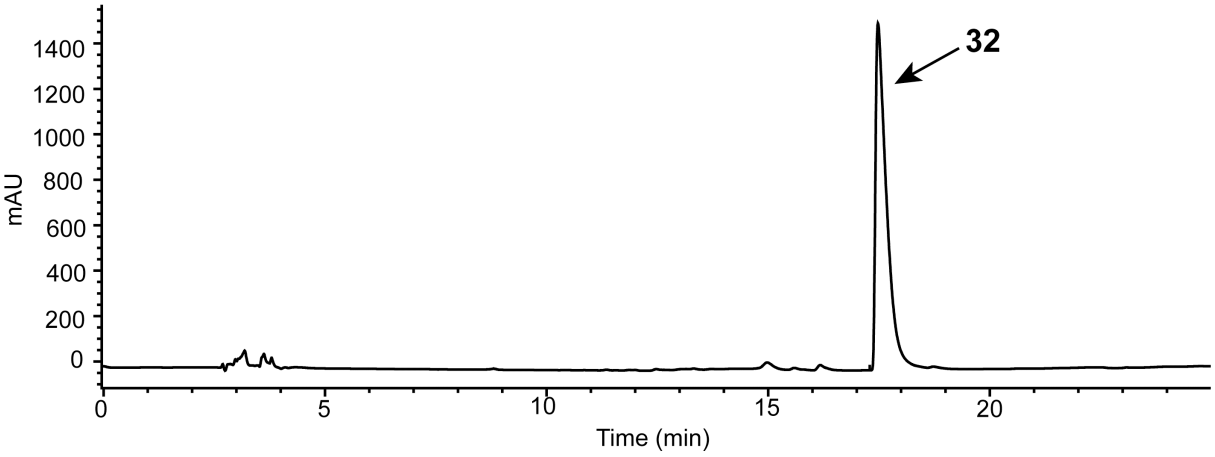

Figure S67. Analytical reverse-phase HPLC profile of compound **32** prior to bioassay. Retention time = 17.5 min. Purity = 98%. Absorbance wavelength = 254 nm.