Chapter 7

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Chapter 8

(Appendix)

^{1}H and ^{13}C NMR of the intermediates and synthesized compounds

2-Phenylquinazolin-4(3H)-one (9c)

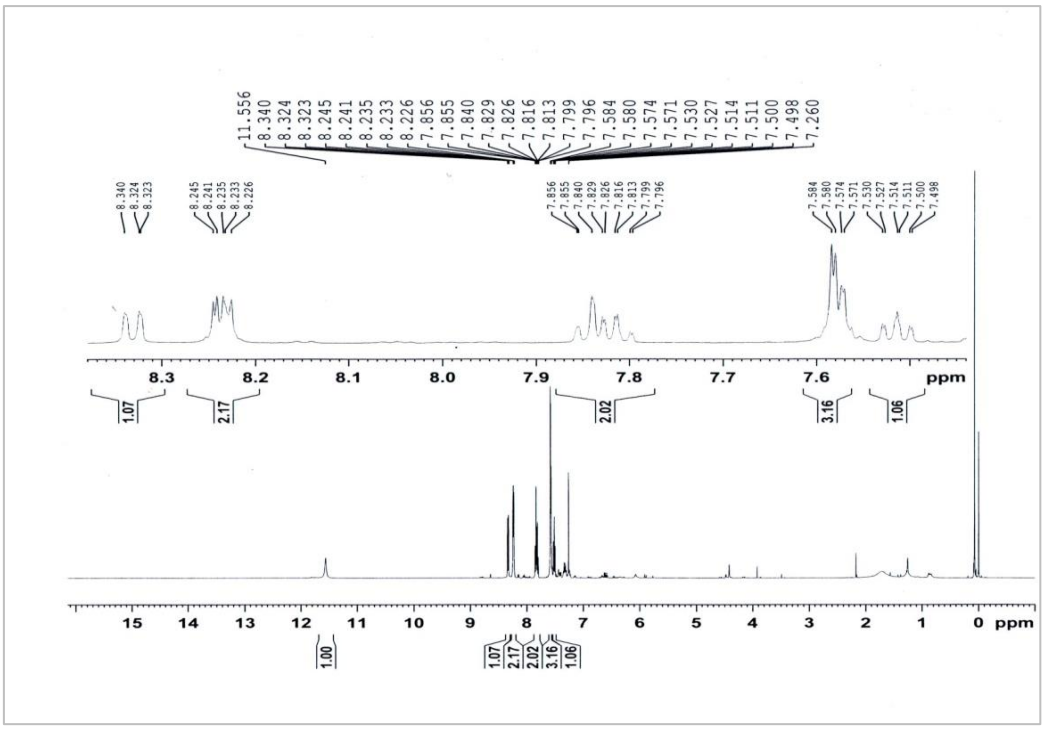

Figure 8.1. ^{1}H NMR Spectra of **9c**

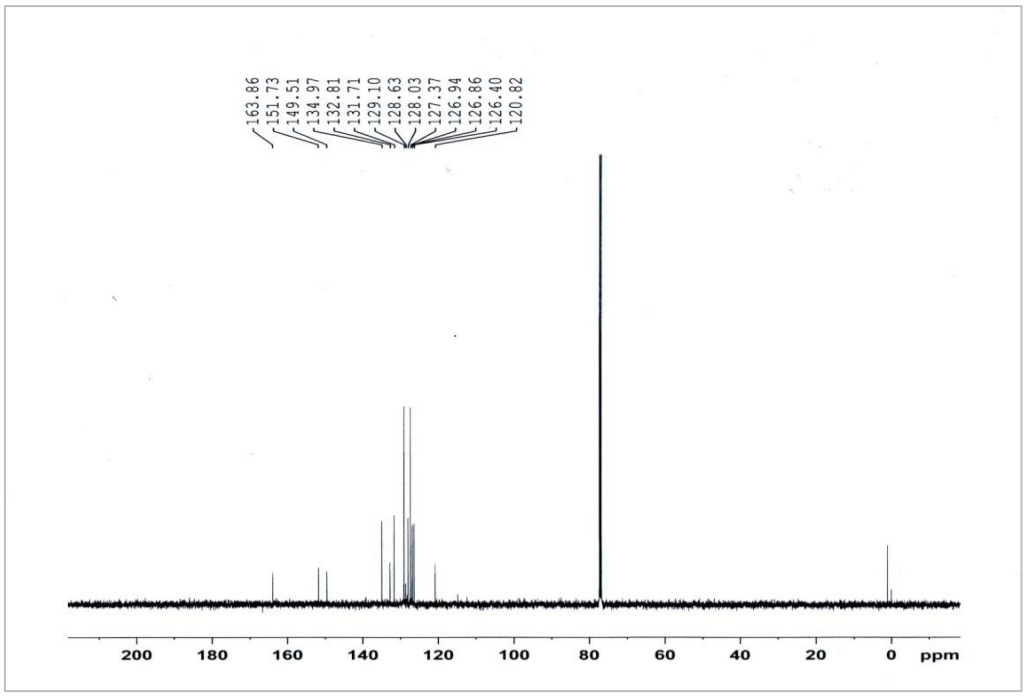

Figure 8.2. ^{13}C NMR Spectra of **9c**

2-(4-Hydroxyphenyl)quinazolin-4(3H)-one (10c)

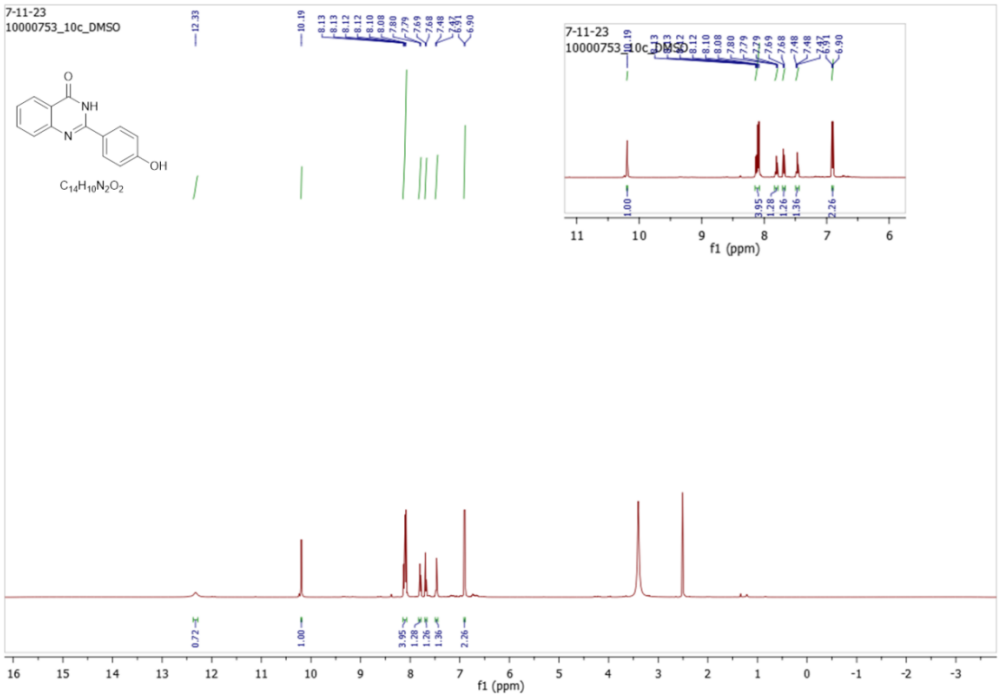

Figure 8.3. ^{1}H NMR Spectra of **10c**

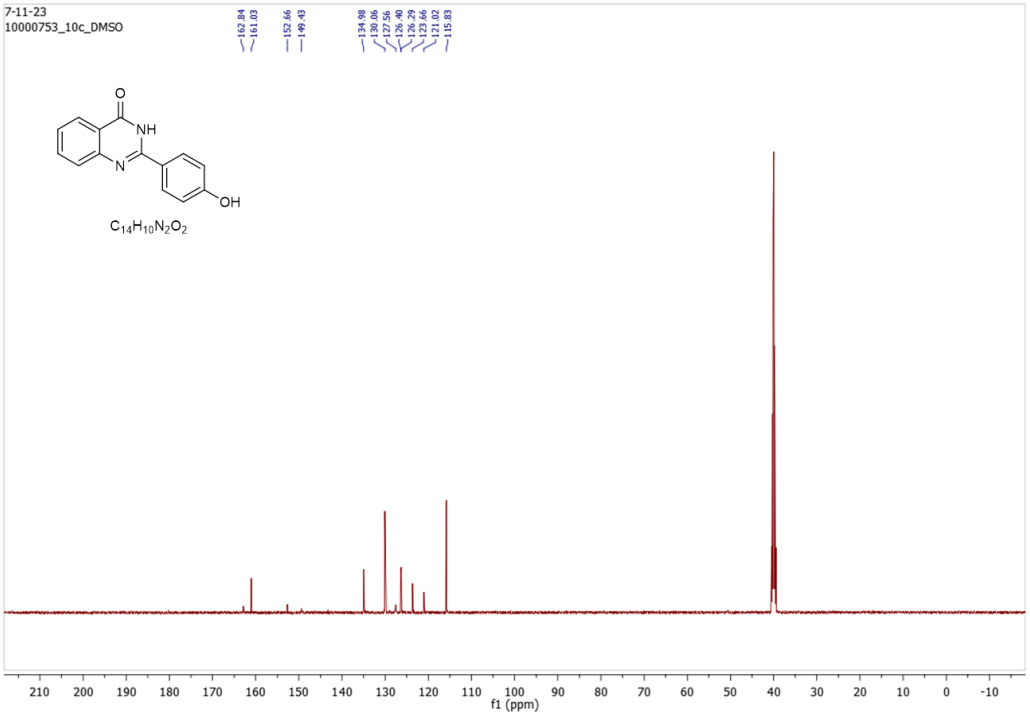

Figure 8.4. ^{13}C NMR Spectra of **10c**

2-(2,3-Dimethoxyphenyl)quinazolin-4(3H)-one (11c)

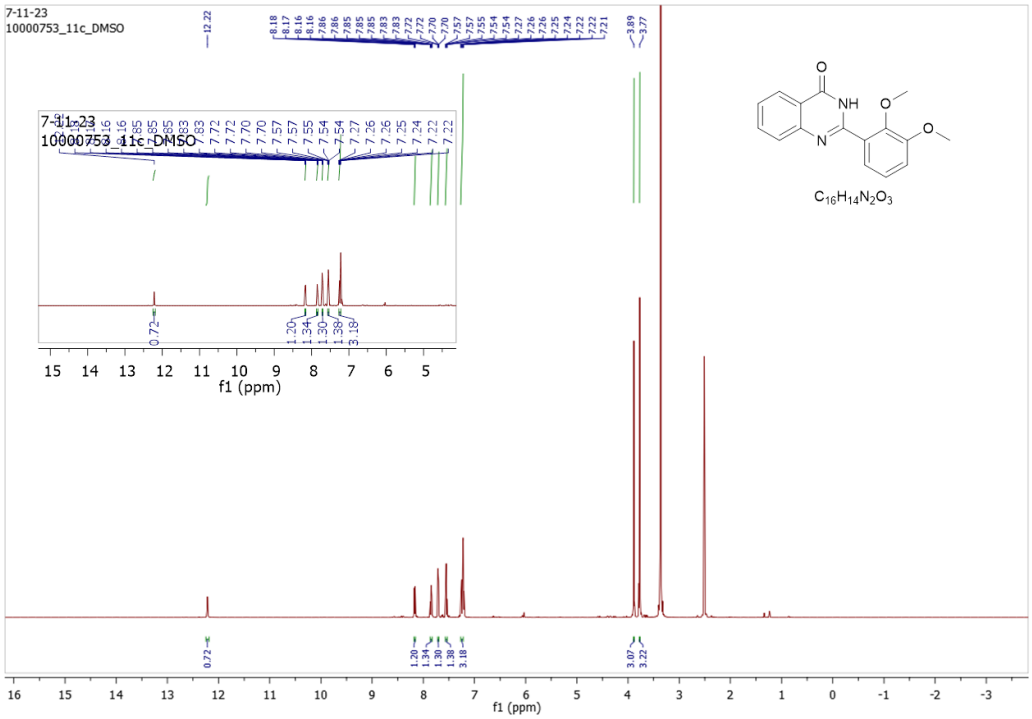

Figure 8.5. ^{1}H NMR Spectra of **11c**

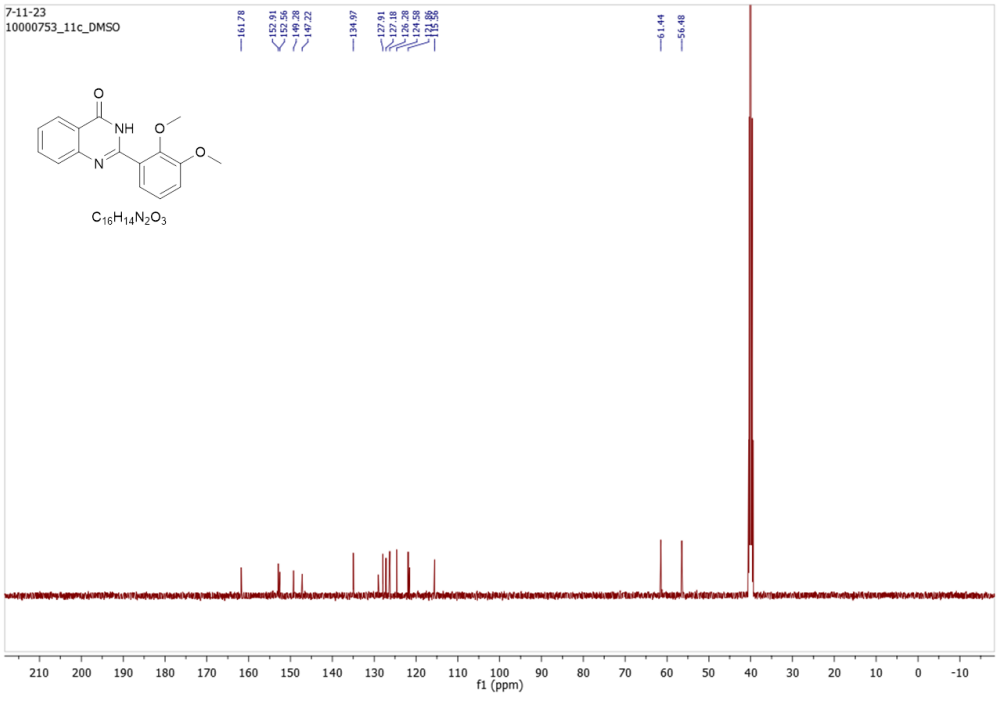

Figure 8.6. ^{13}C NMR Spectra of **11c**

2-(3,4,5-Trimethoxyphenyl)quinazolin-4(3H)-one (12c)

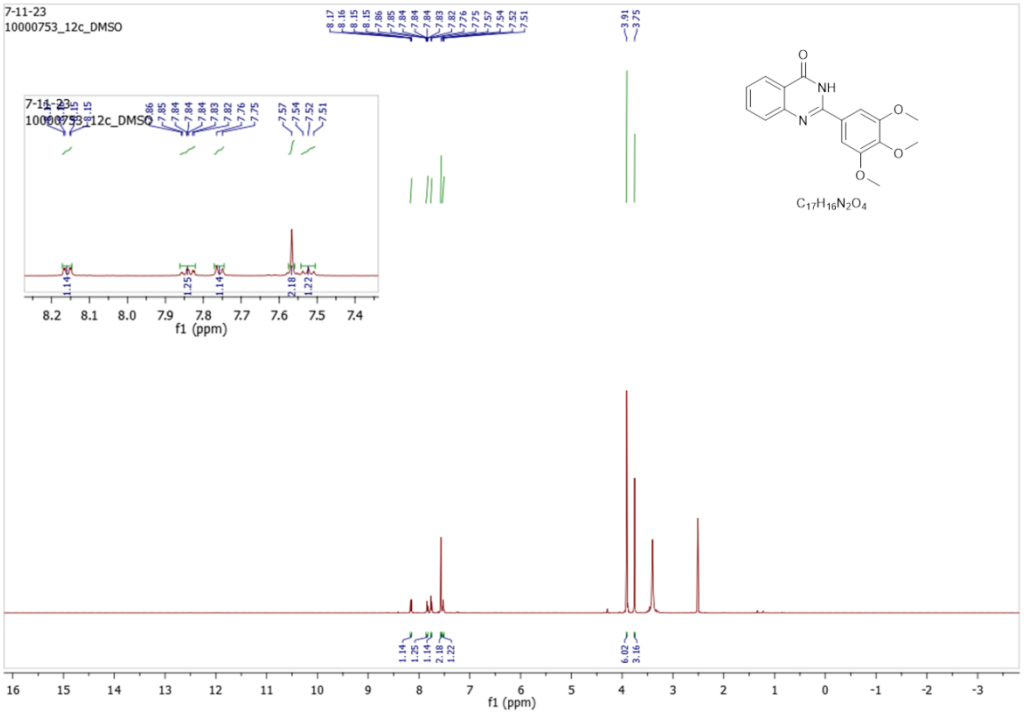

Figure 8.7. ^{1}H NMR Spectra of **12c**

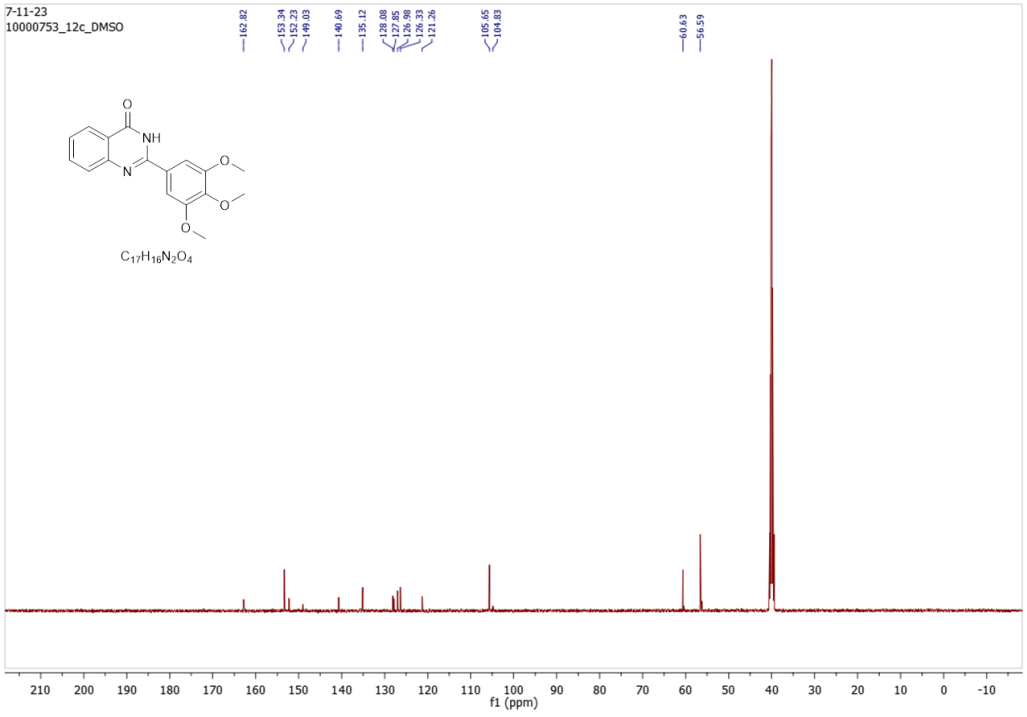

Figure 8.8. ^{13}C NMR Spectra of **12c**

2-(p-Tolyl)quinazolin-4(3H)-one (13c)

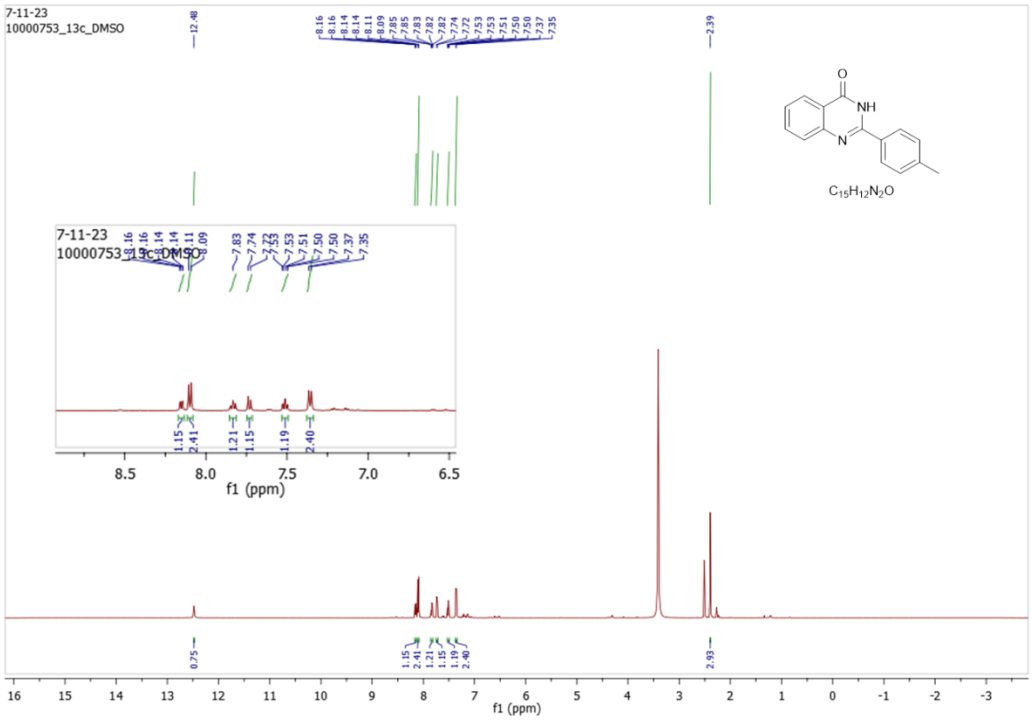

Figure 8.9. ^{1}H NMR Spectra of **13c**

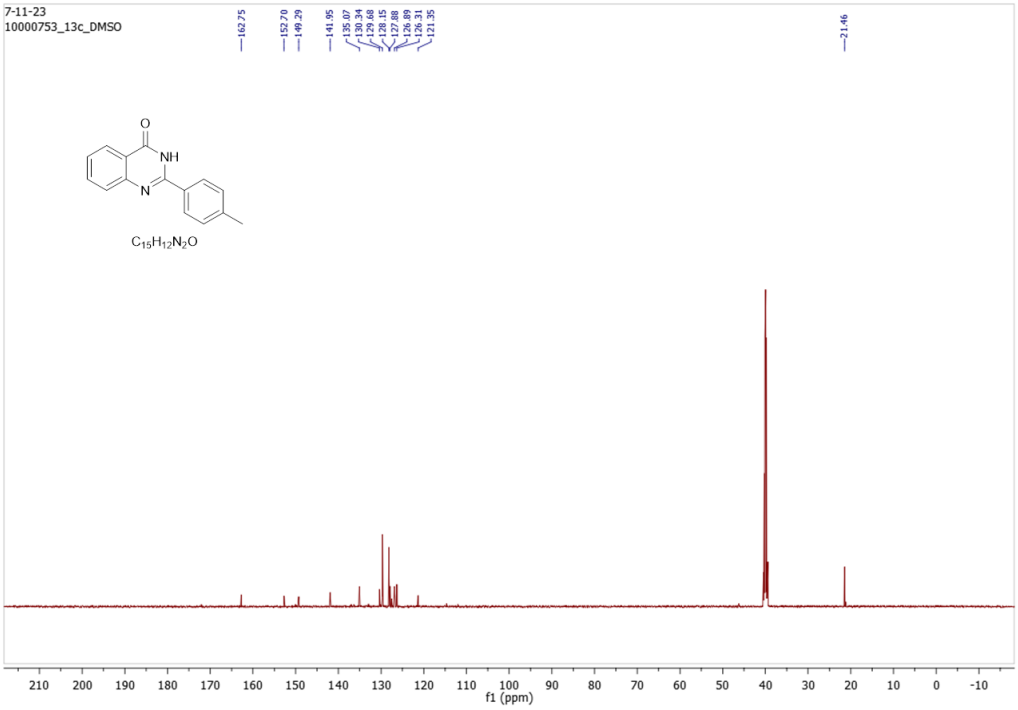

Figure 8.10. ^{13}C NMR Spectra of **13c**

2-(4-Nitrophenyl)quinazolin-4(3H)-one (14c)

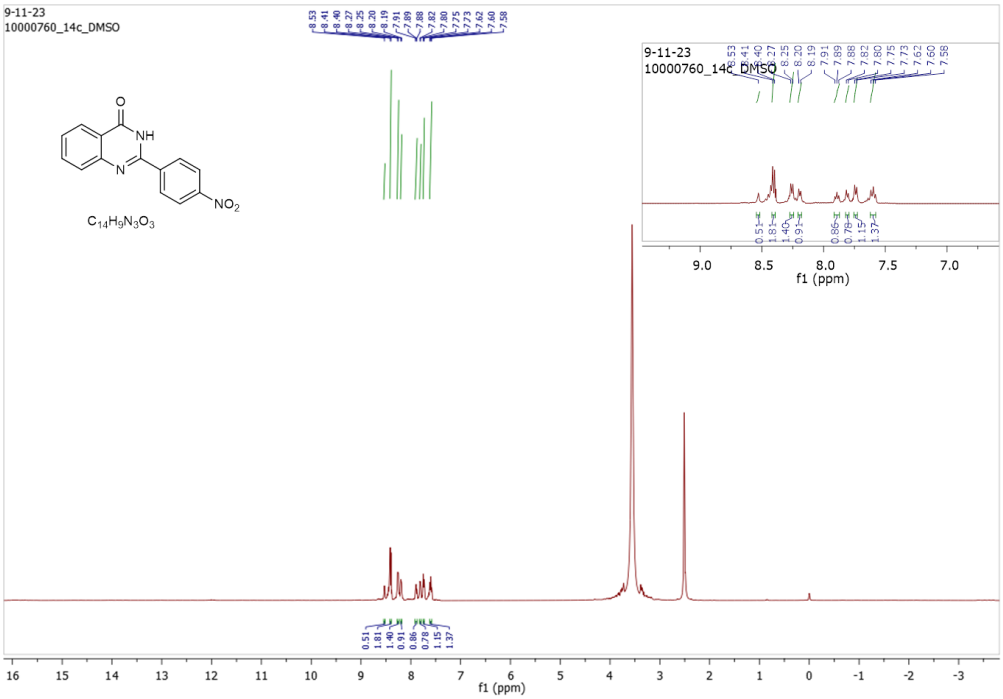

Figure 8.11. ^{1}H NMR Spectra of **14c**

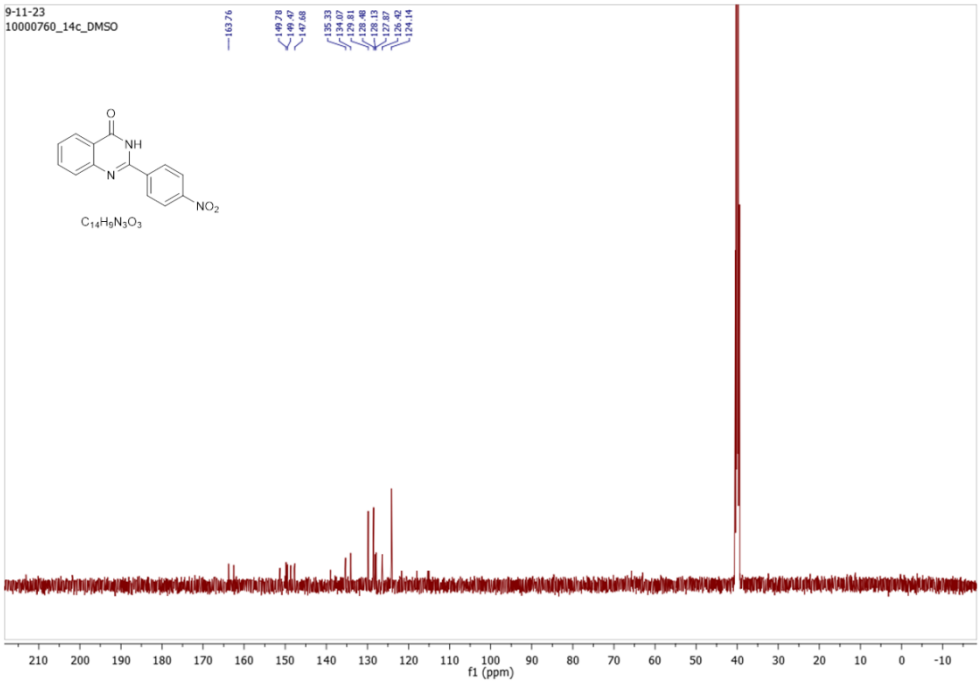

Figure 8.12. ^{13}C NMR Spectra of **14c**

2-(4-(Trifluoromethoxy)phenyl)quinazolin-4(3H)-one (15c)

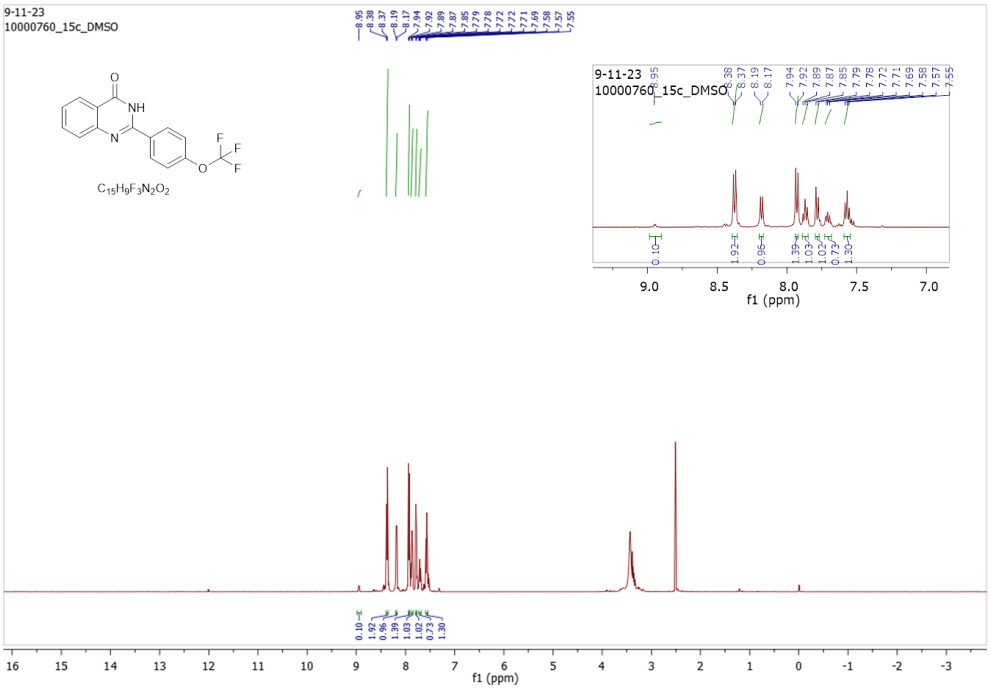

Figure 8.13. ^{1}H NMR Spectra of **15c**

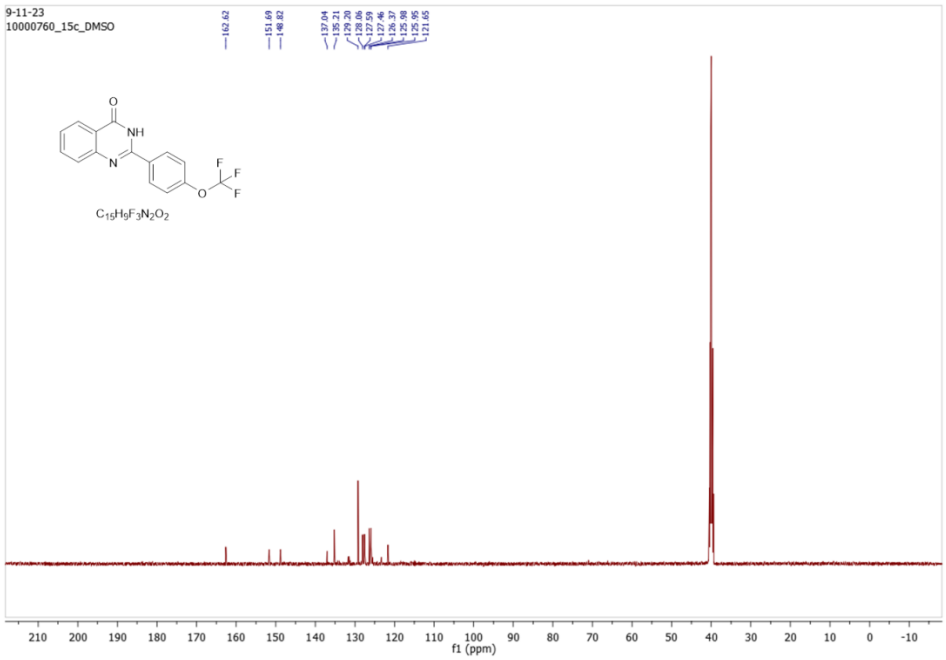

Figure 8.14. ^{13}C NMR Spectra of **15c**

4-Chloro-2-phenylquinazoline (16d)

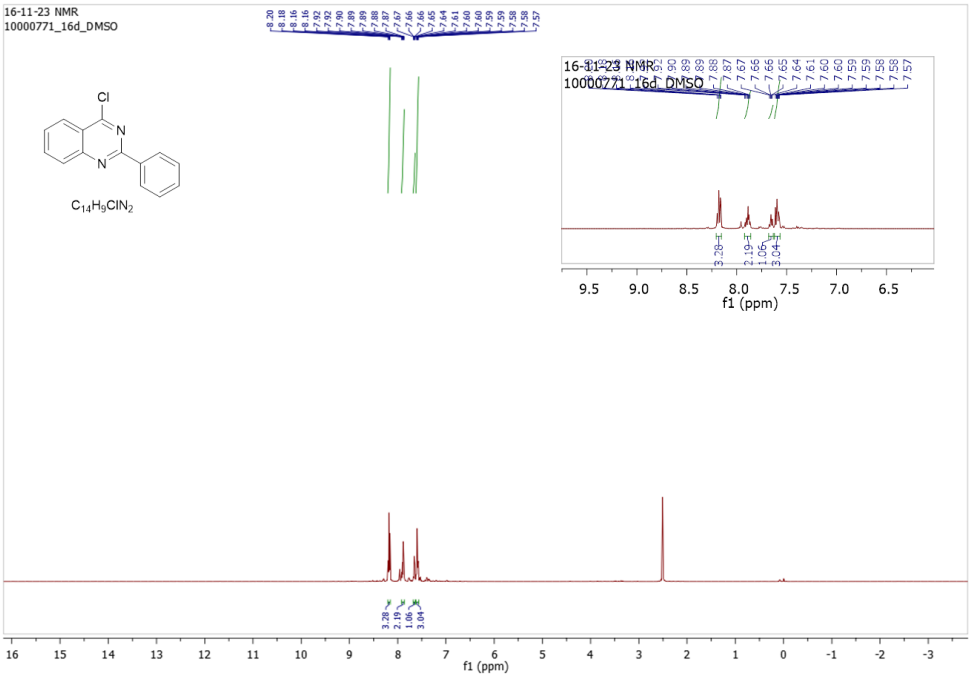

Figure 8.15. ^{1}H NMR Spectra of **16d**

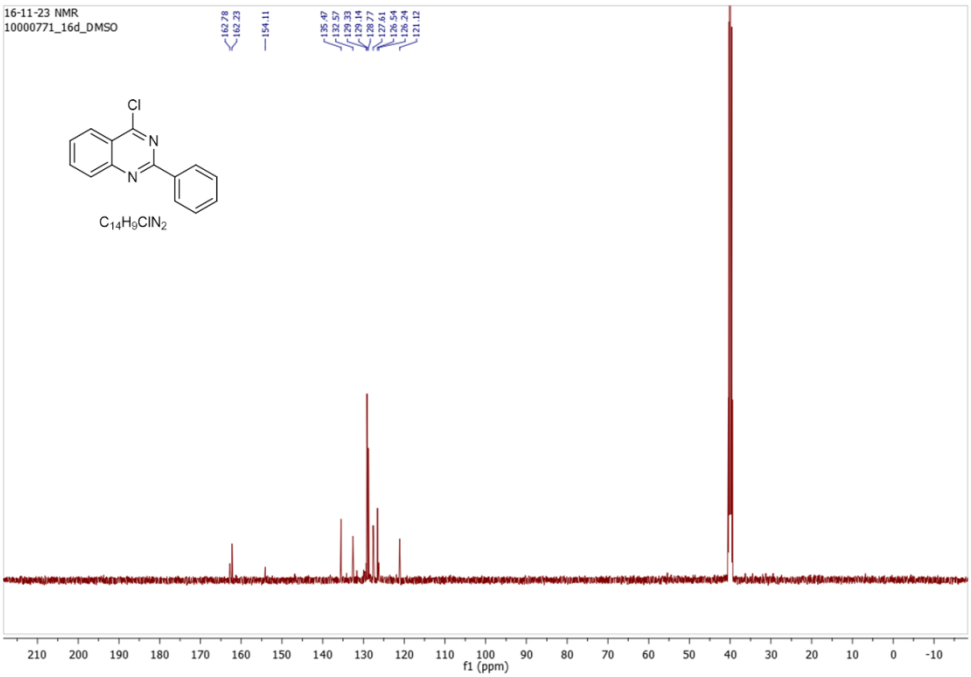

Figure 8.16. ^{13}C NMR Spectra of **16d**

4-(4-Chloroquinazolin-2-yl)phenol (17d)

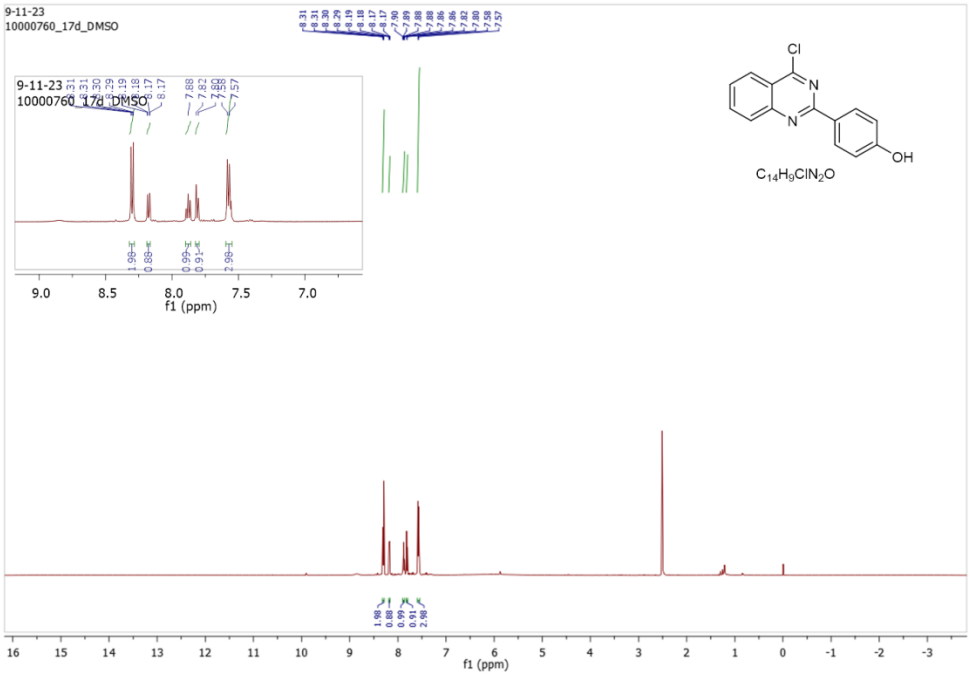

Figure 8.17. ^{1}H NMR Spectra of **17d**

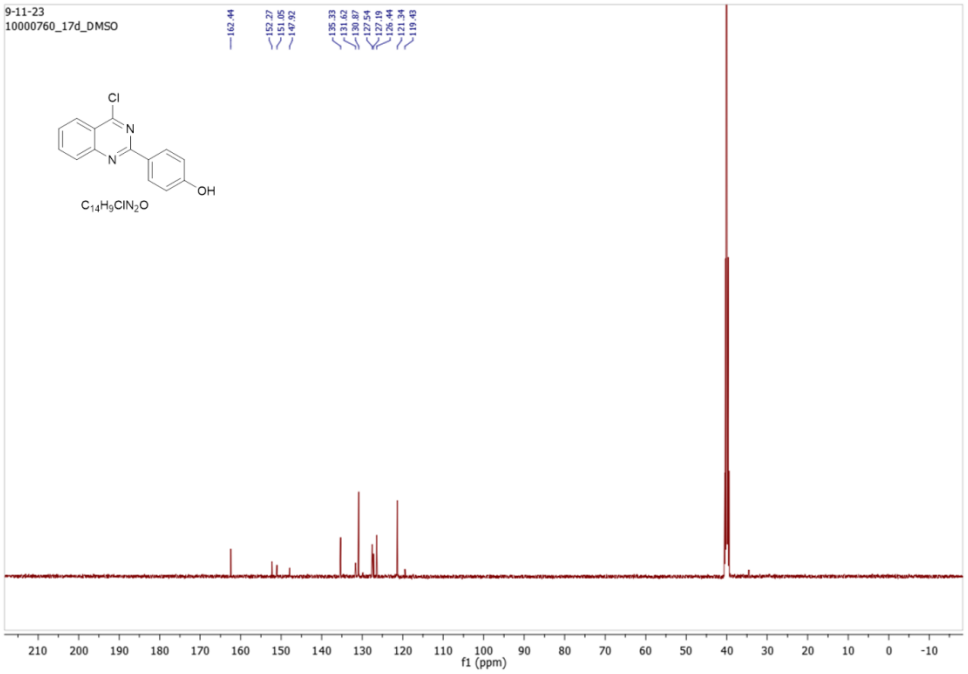

Figure 8.18. ^{13}C NMR Spectra of **17d**

4-Chloro-2-(2,3-dimethoxyphenyl)quinazoline (18d)

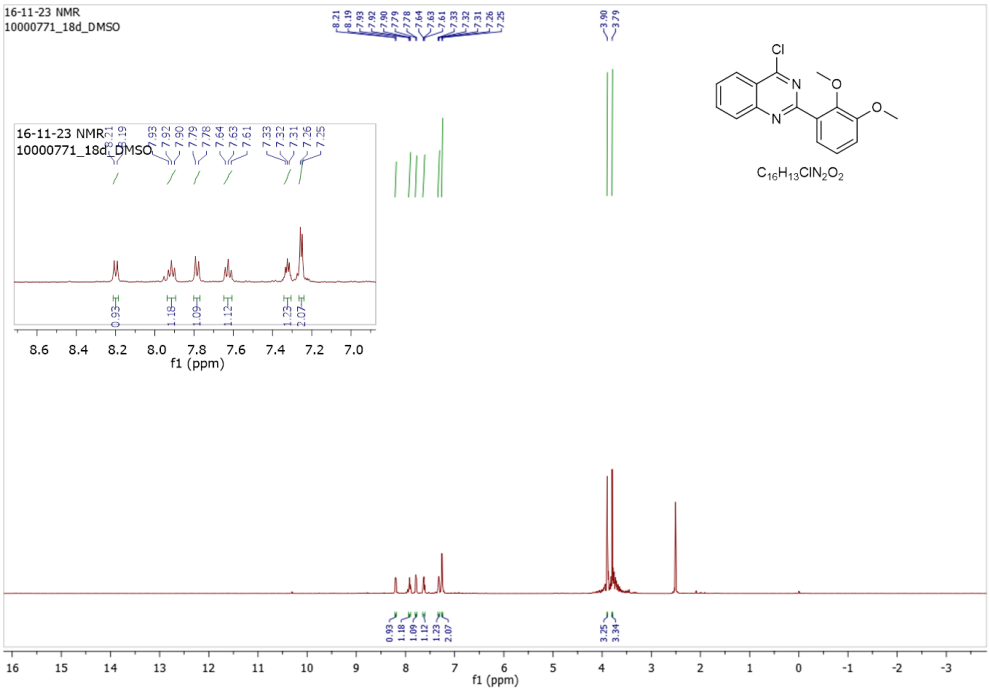

Figure 8.19 ^{1}H NMR Spectra of **18d**

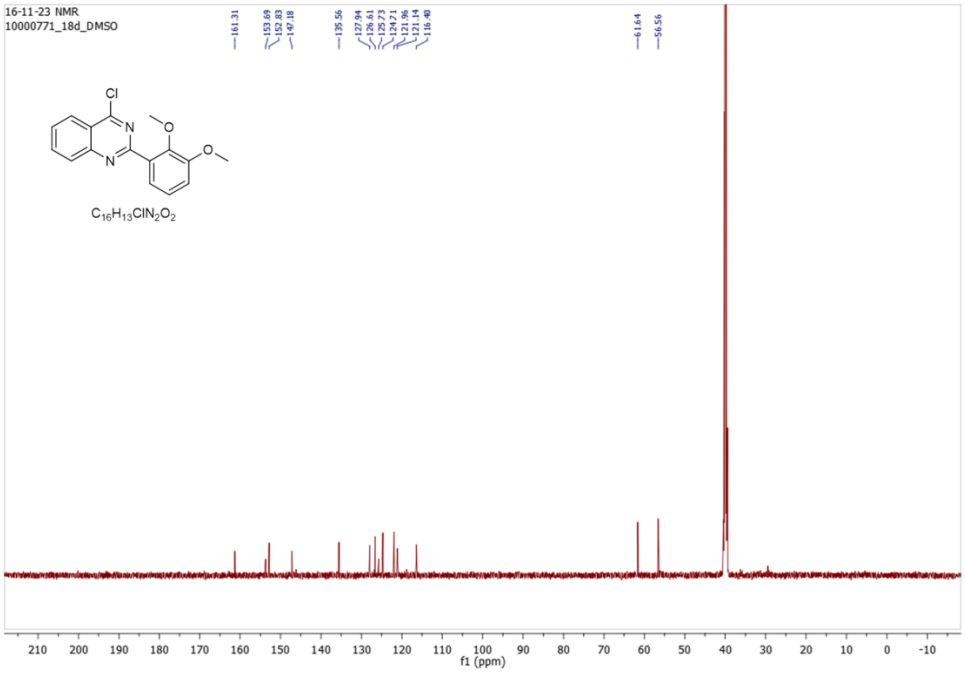

Figure 8.20. ^{13}C NMR Spectra of **18d**

4-Chloro-2-(3,4,5-trimethoxyphenyl)quinazoline (19d)

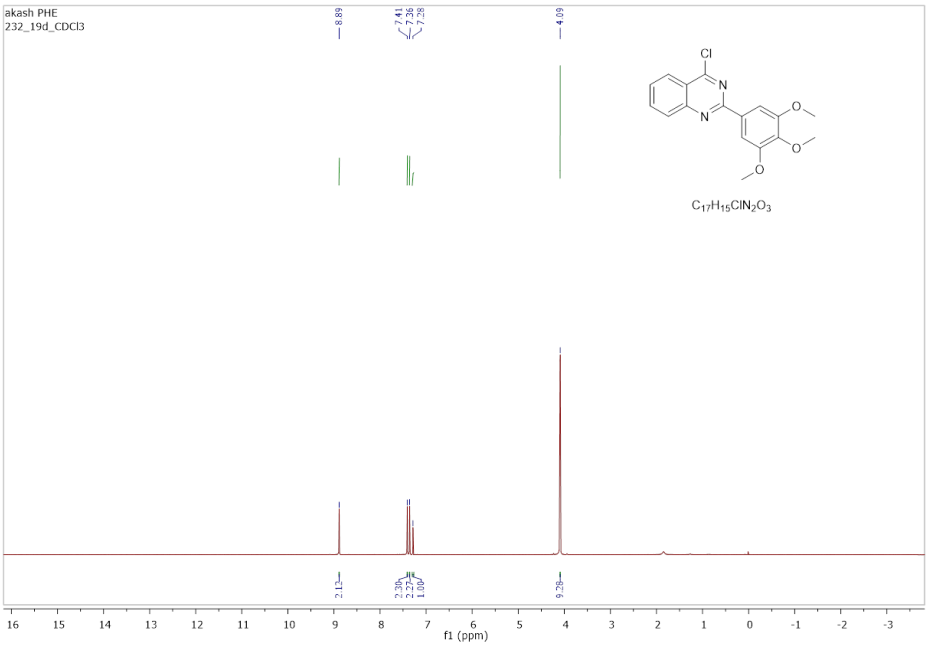

Figure 8.21. ^{1}H NMR Spectra of **19d**

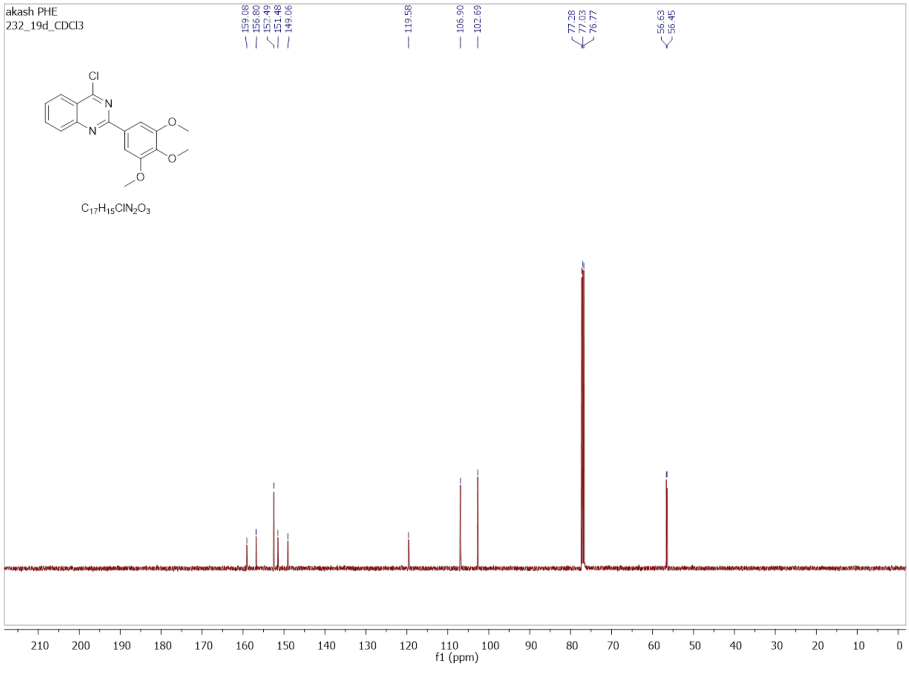

Figure 8.22. ^{13}C NMR Spectra of **19d**

4-Chloro-2-(p-tolyl)quinazoline (20d)

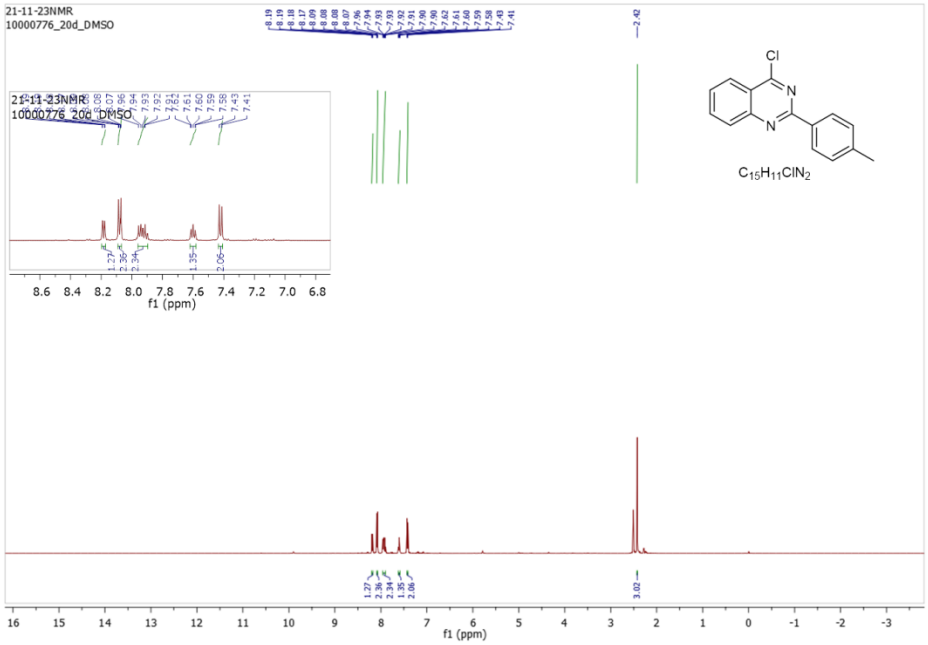

Figure 8.23. ^{1}H NMR Spectra of **20d**

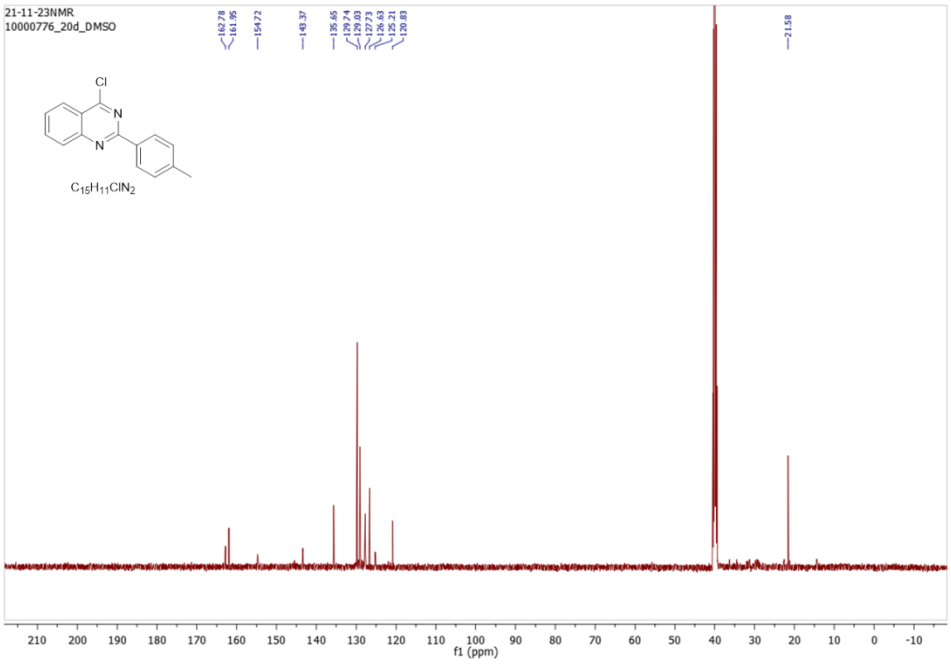

Figure 8.24. ^{13}C NMR Spectra of **20d**

4-Chloro-2-(4-(trifluoromethoxy)phenyl)quinazoline (22d)

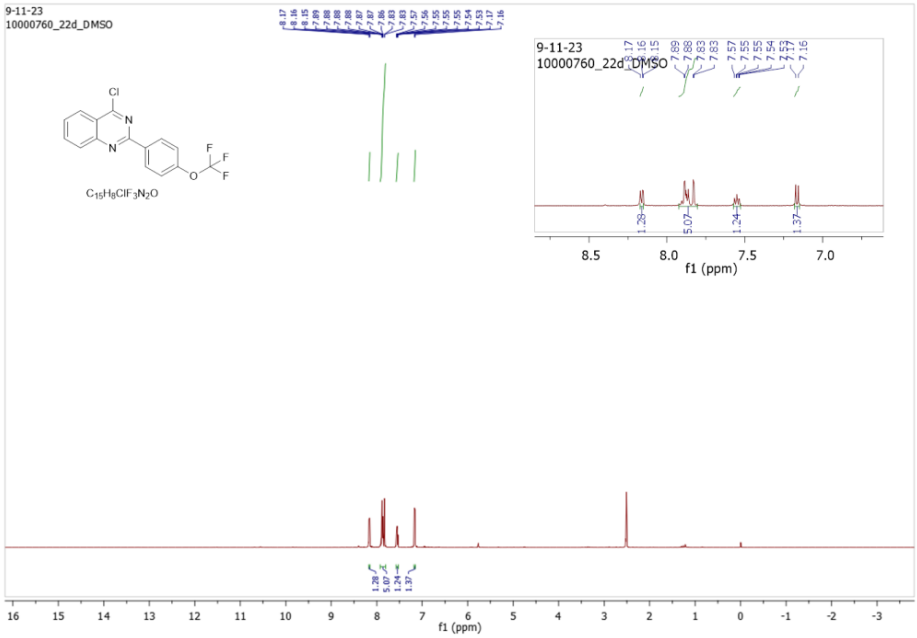

Figure 8.25. ^{1}H NMR Spectra of **22d**

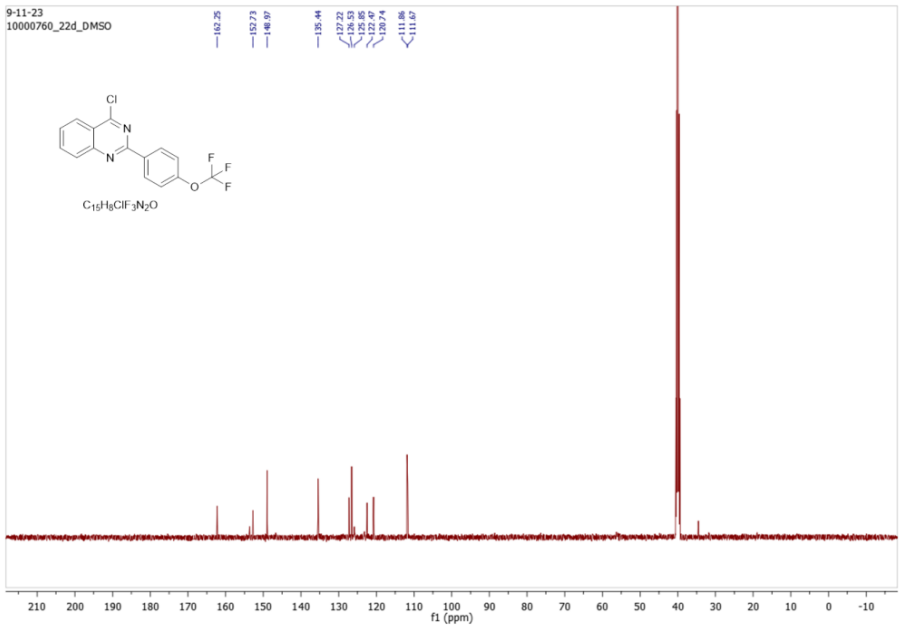

Figure 8.26. ^{13}C NMR Spectra of **22d**

4-(4-Benzhydrylpiperazin-1-yl)-2-phenylquinazoline (AV-1)

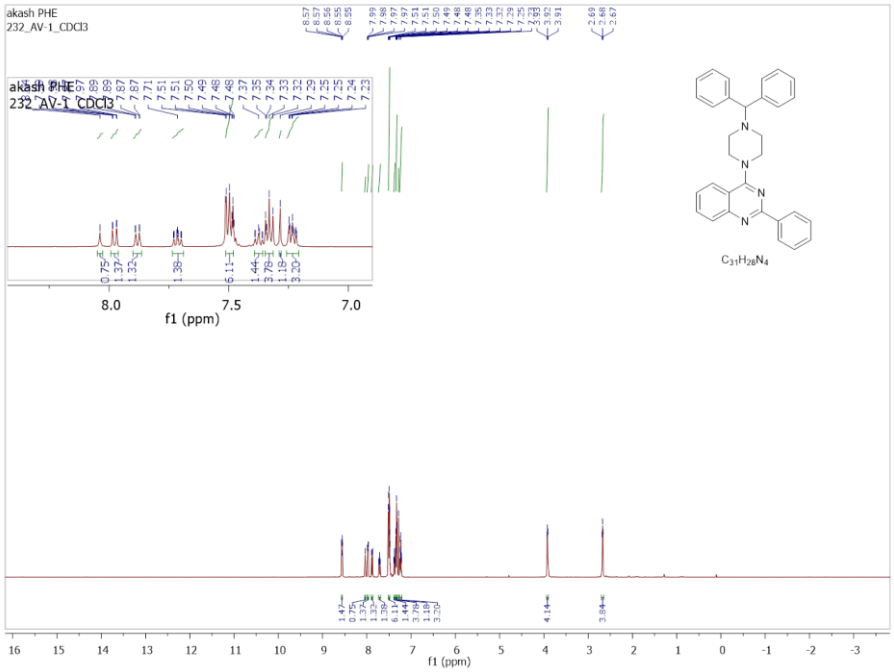

Figure 8.27. ^{1}H NMR Spectra of **AV-1**

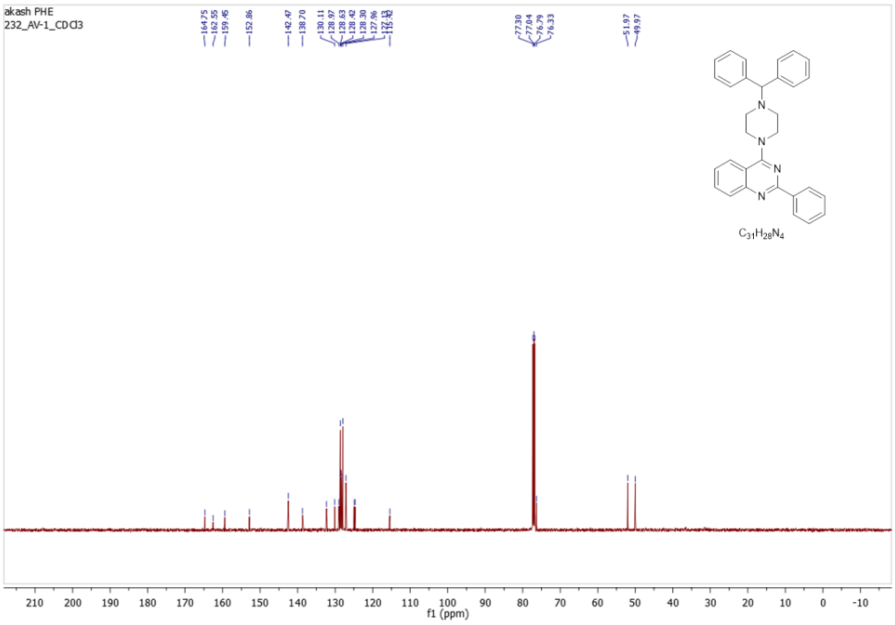

Figure 8.28. ^{13}C NMR Spectra of **AV-1**

4-(4-Benzylpiperazin-1-yl)-2-phenylquinazoline (AV-2)

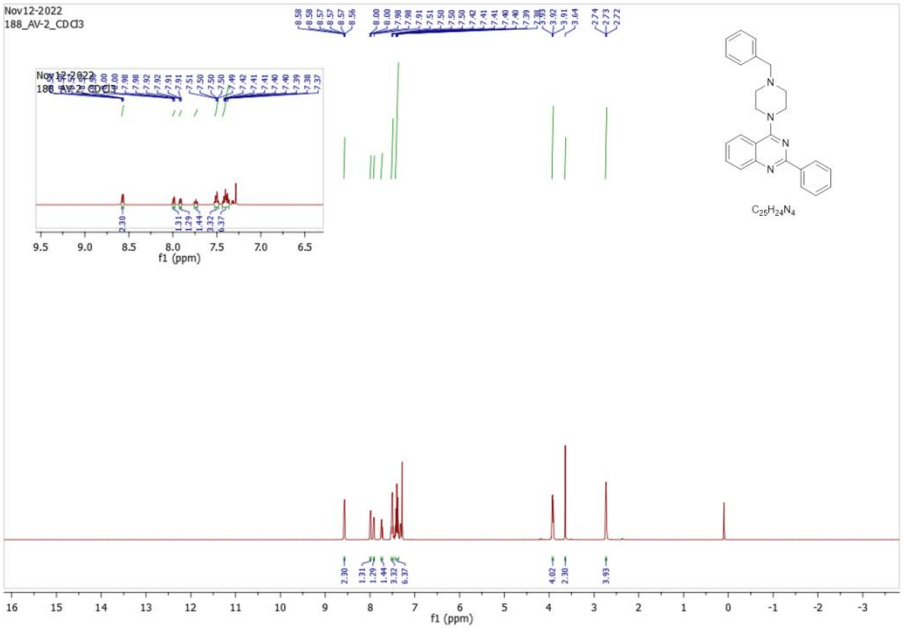

Figure 8.29. ^{1}H NMR Spectra of **AV-2**

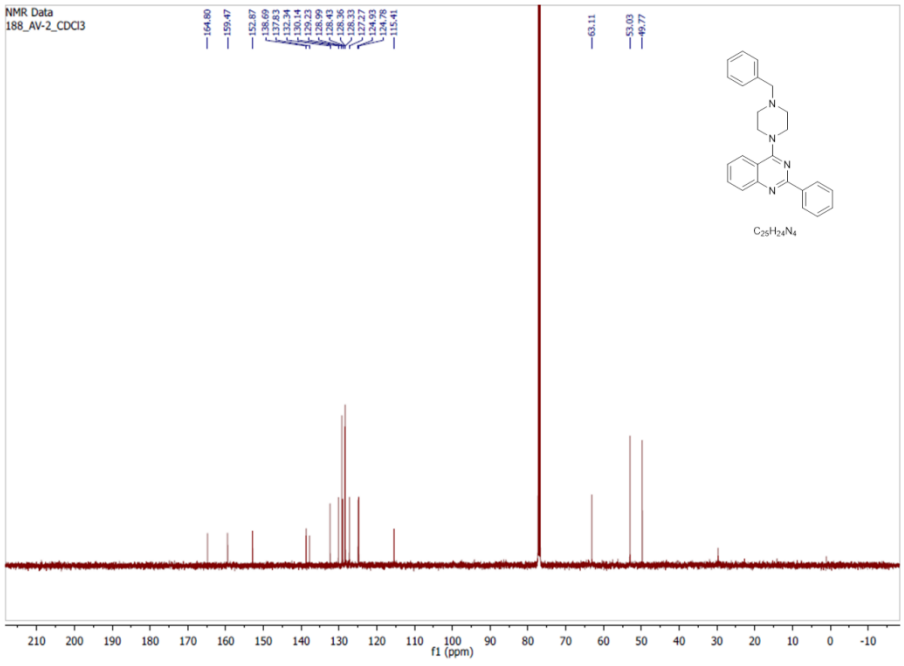

Figure 8.30. ^{13}C NMR Spectra of **AV-2**

4-(4-(4-Nitrophenyl)piperazin-1-yl)-2-phenylquinazoline (AV-3)

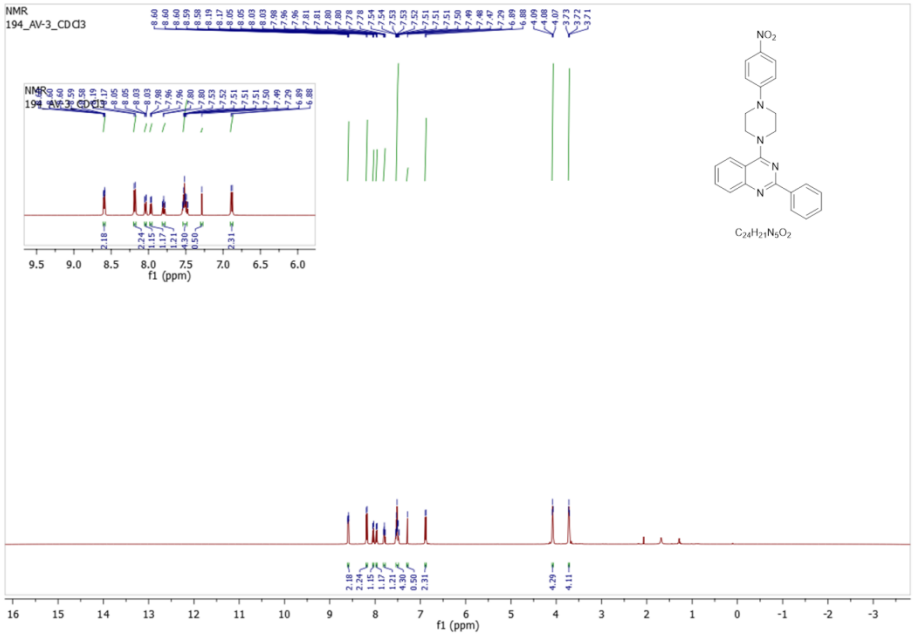

Figure 8.31. ^{1}H NMR Spectra of **AV-3**

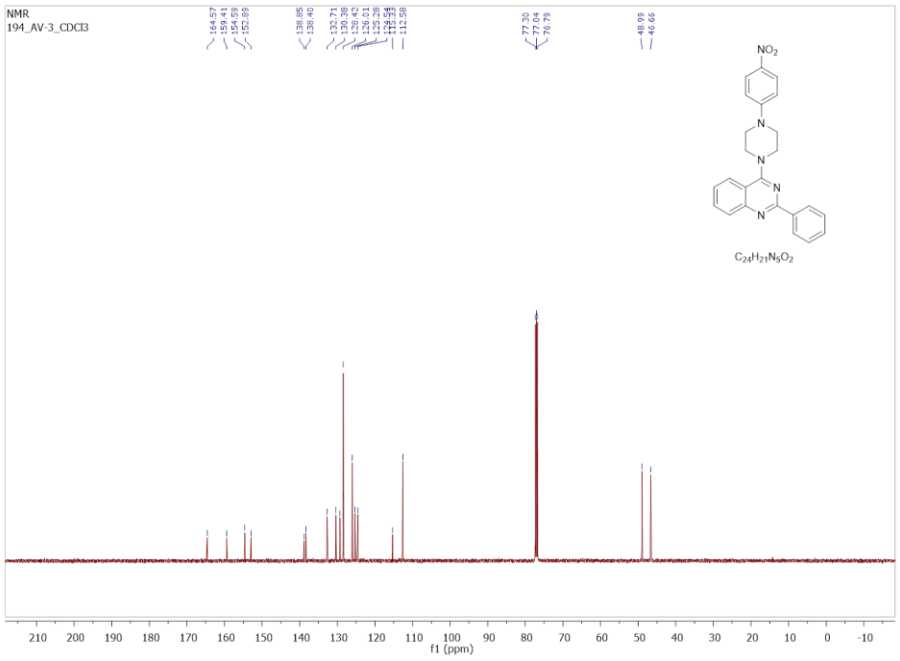

Figure 8.32. ^{13}C NMR Spectra of **AV-3**

4-(4-(4-Benzhydrylpiperazin-1-yl)quinazolin-2-yl)phenol (AV-4)

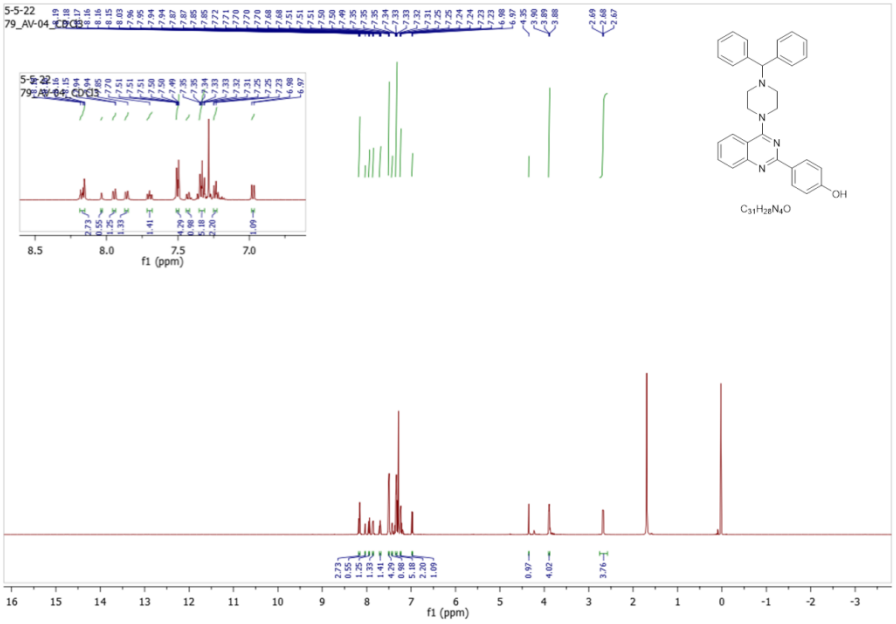

Figure 8.33. ^{1}H NMR Spectra of **AV-4**

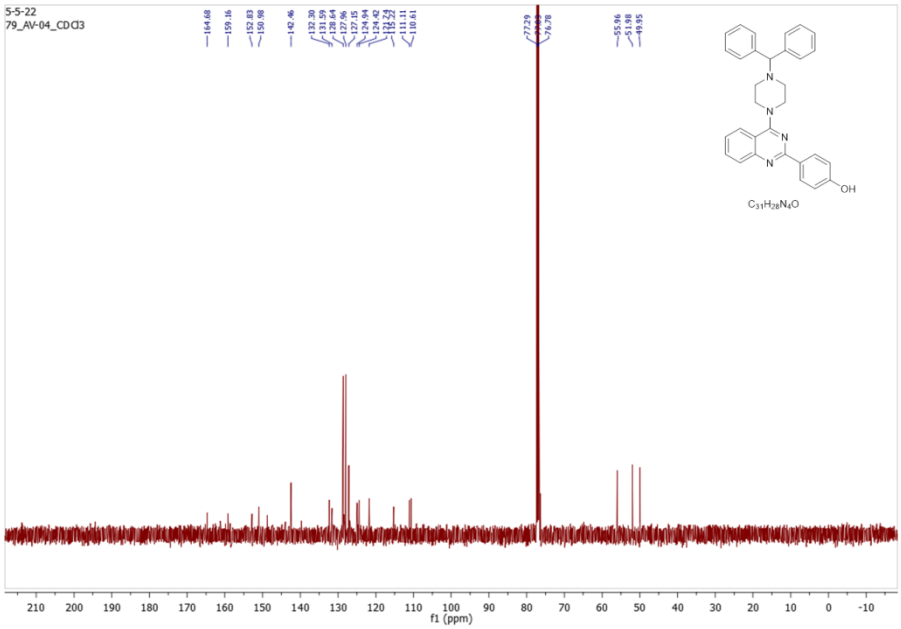

Figure 8.34. ^{13}C NMR Spectra of **AV-4**

4-(4-(4-Benzylpiperazin-1-yl)quinazolin-2-yl)phenol (AV-5)

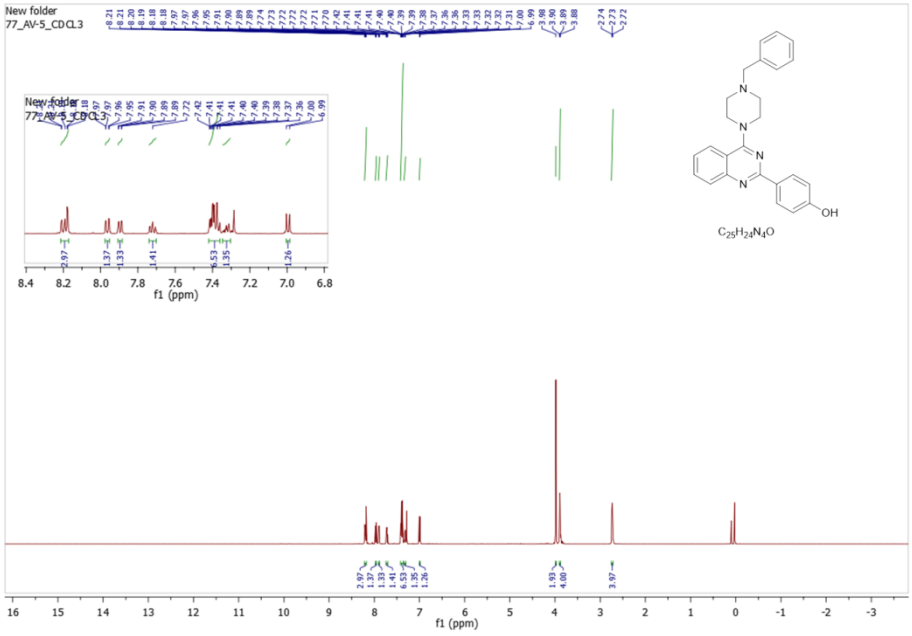

Figure 8.35. ^{1}H NMR Spectra of **AV-5**

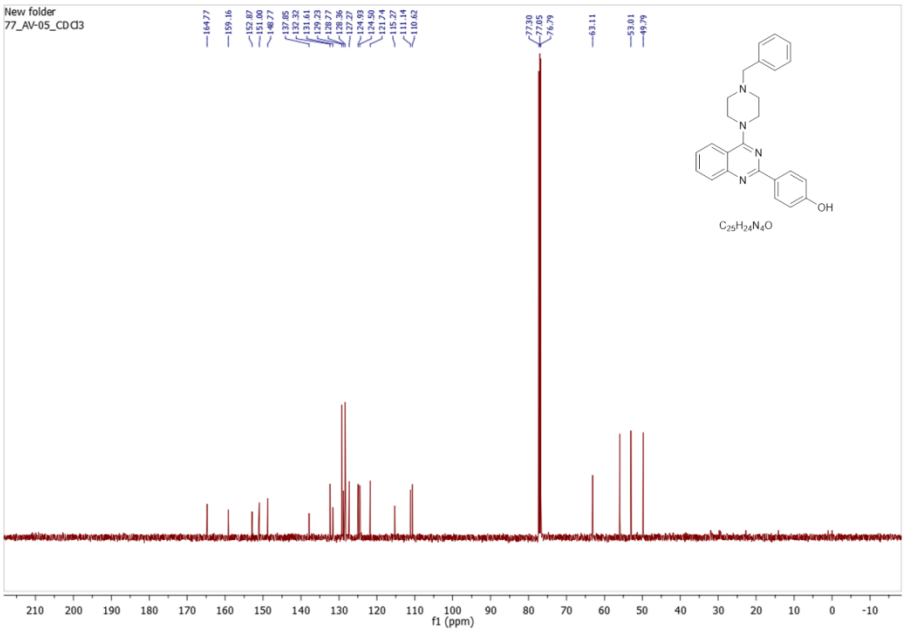

Figure 8.36. ^{13}C NMR Spectra of **AV-5**

4-(4-Benzhydrylpiperazin-1-yl)-2-(3,4-dimethoxyphenyl)quinazoline (AV-7)

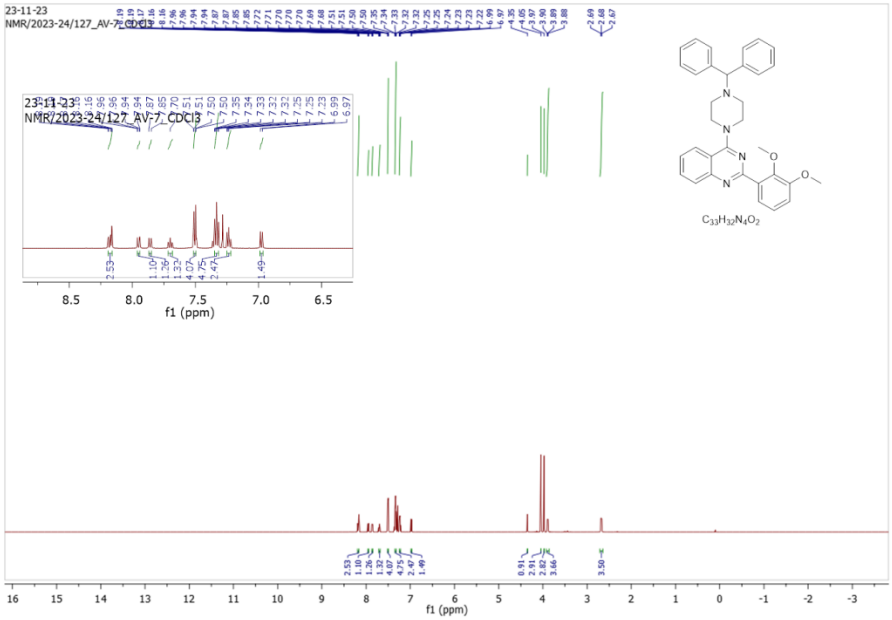

Figure 8.37. ^{1}H NMR Spectra of **AV-7**

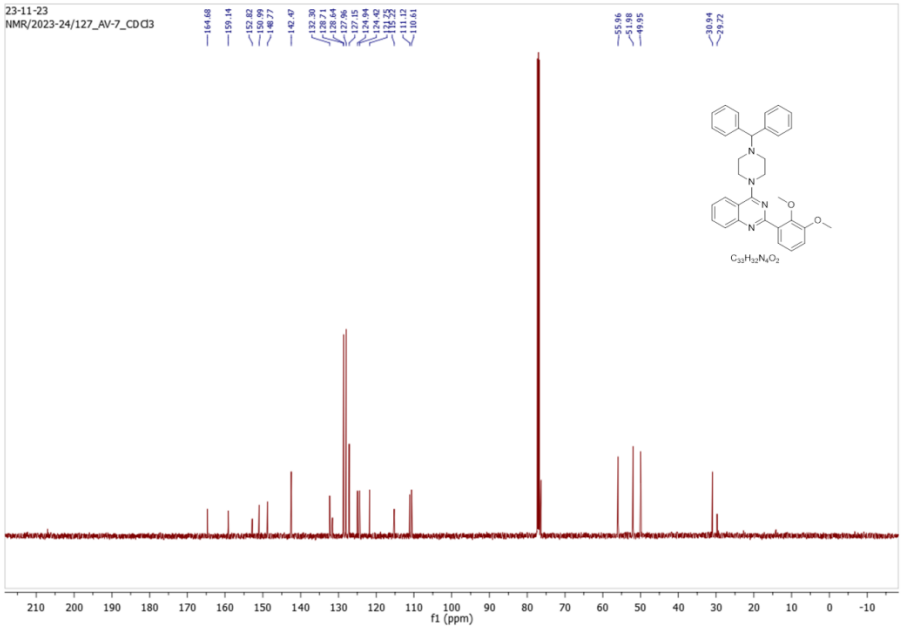

Figure 8.38. ^{13}C NMR Spectra of **AV-7**

4-(4-Benzhydrylpiperazin-1-yl)-2-(3,4,5-trimethoxyphenyl)quinazoline (AV-10)

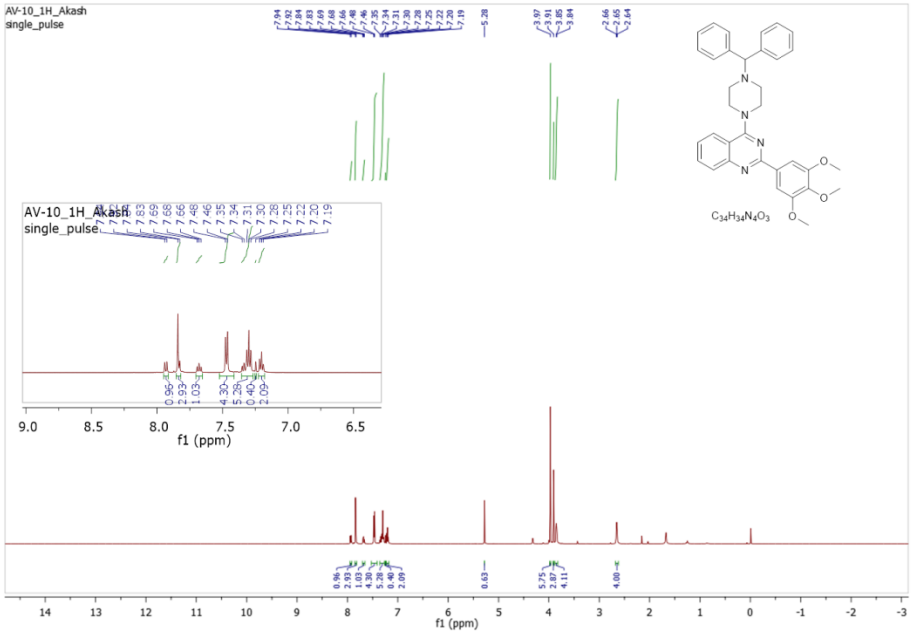

Figure 8.39. ^{1}H NMR Spectra of **AV-10**

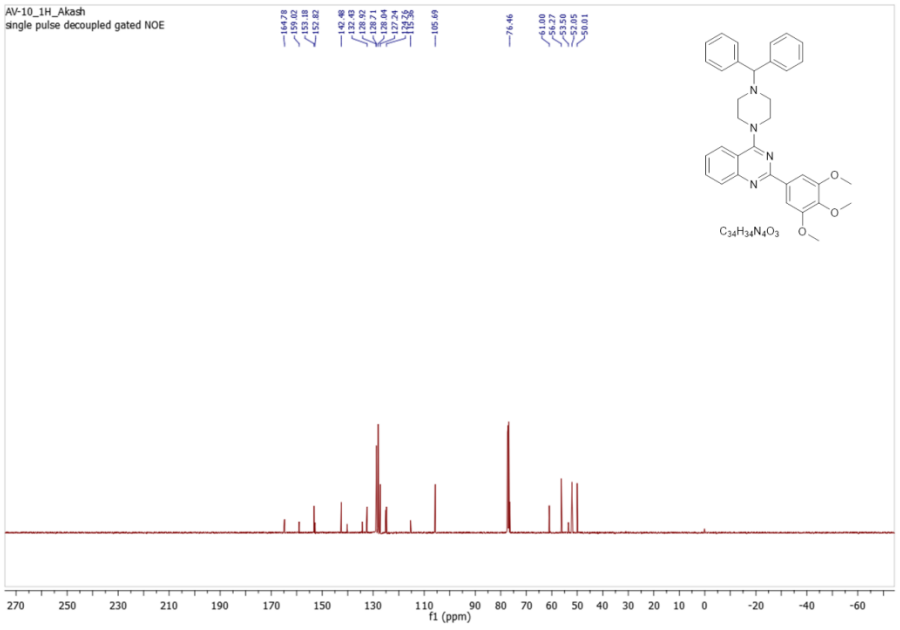

Figure 8.40. ^{13}C NMR Spectra of **AV-10**

4-(4-Benzylpiperazin-1-yl)-2-(3,4,5-trimethoxyphenyl)quinazoline (AV-11)

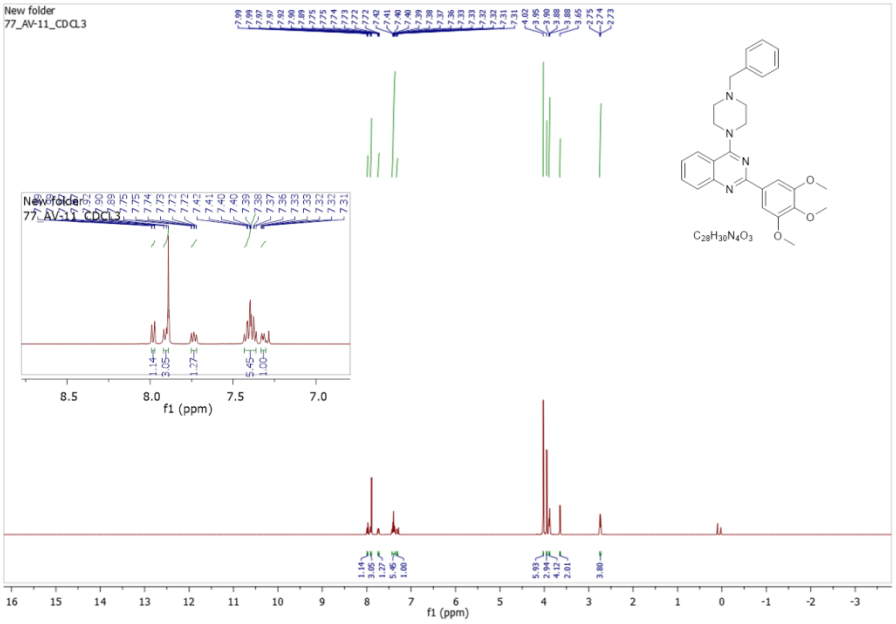

Figure 8.41. ^{1}H NMR Spectra of **AV-11**

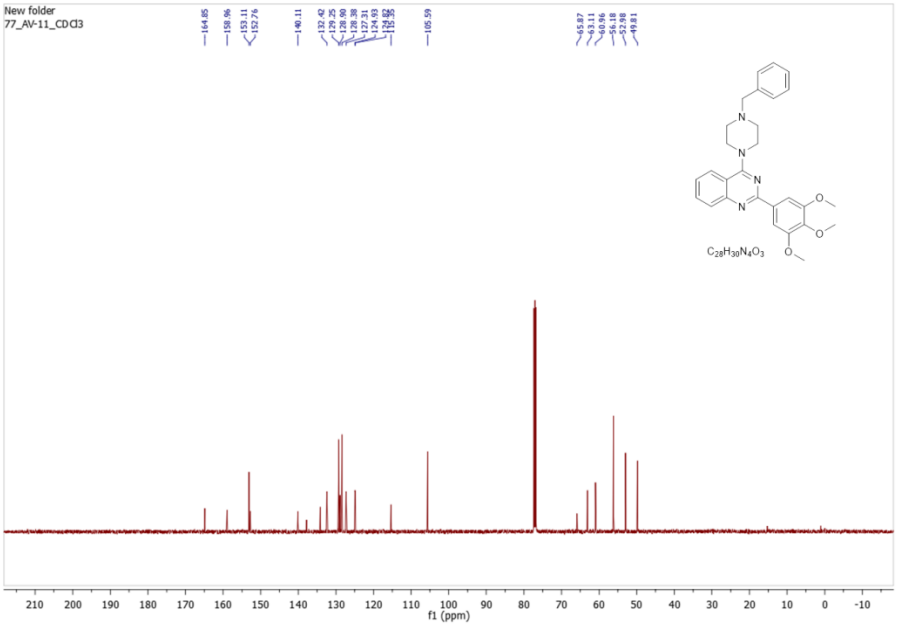

Figure 8.42. ^{13}C NMR Spectra of **AV-11**

4-(4-(4-Nitrophenyl)piperazin-1-yl)-2-(3,4,5-trimethoxyphenyl)quinazoline (AV-12)

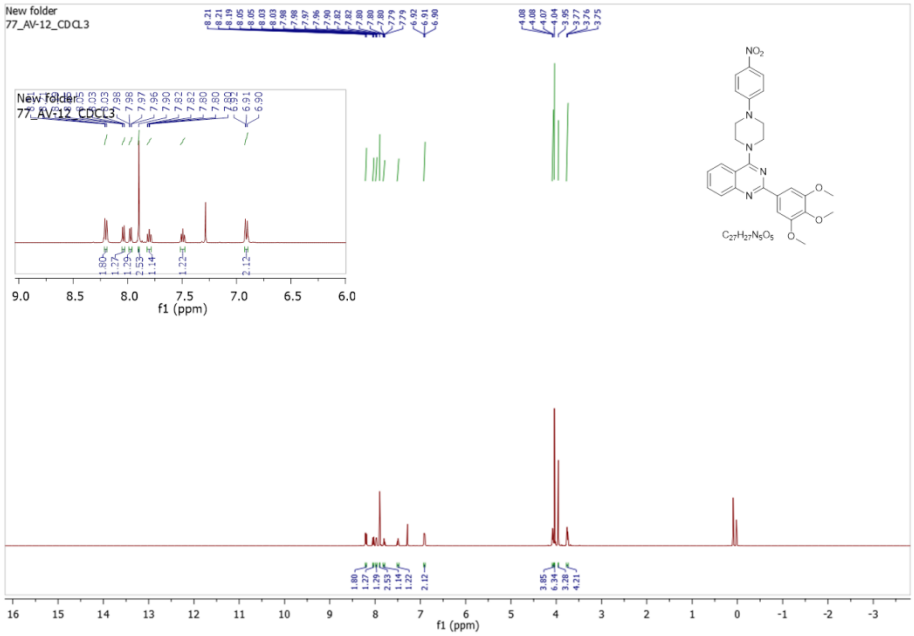

Figure 8.43. ^{1}H NMR Spectra of **AV-12**

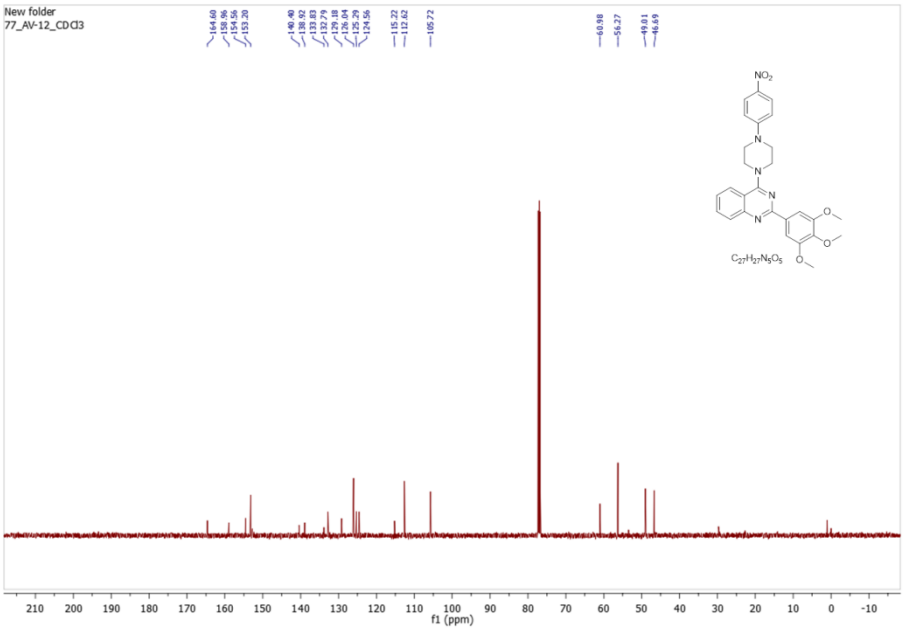

Figure 8.44. ^{13}C NMR Spectra of **AV-12**

4-(4-Benzhydrylpiperazin-1-yl)-2-(p-tolyl)quinazoline (AV-13)

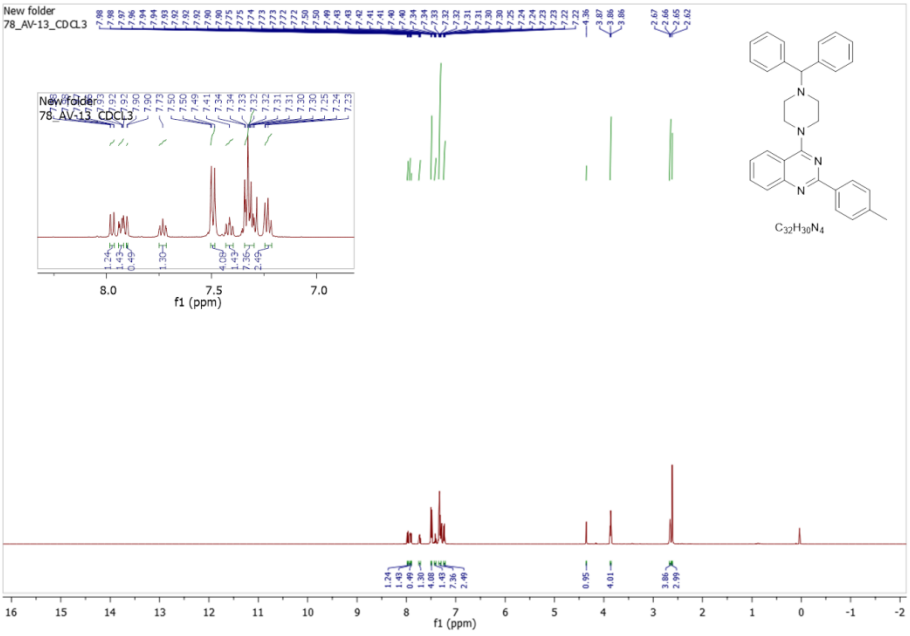

Figure 8.45. ^{1}H NMR Spectra of **AV-13**

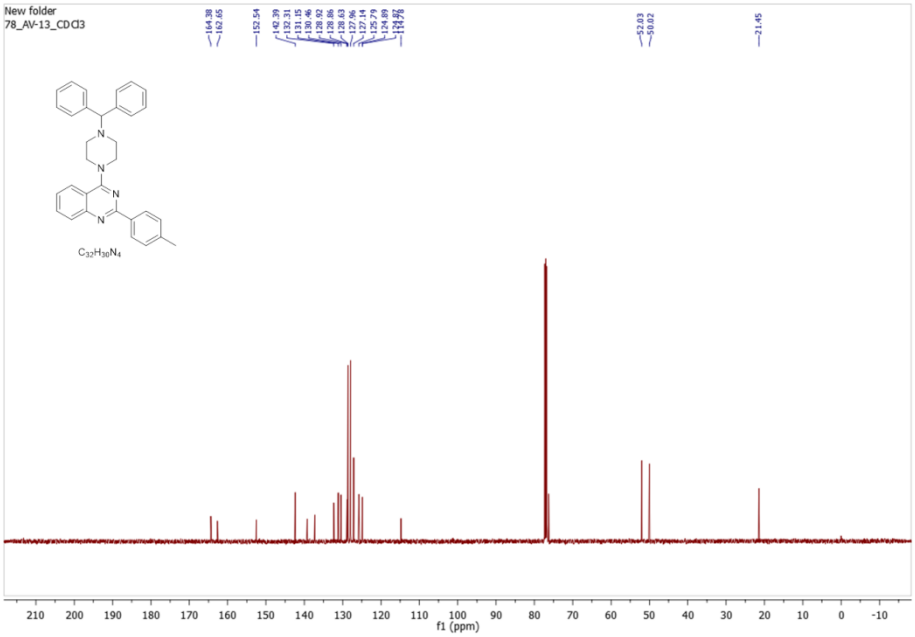

Figure 8.46. ^{13}C NMR Spectra of **AV-13**

4-(4-Benzylpiperazin-1-yl)-2-(p-tolyl)quinazoline (AV-14)

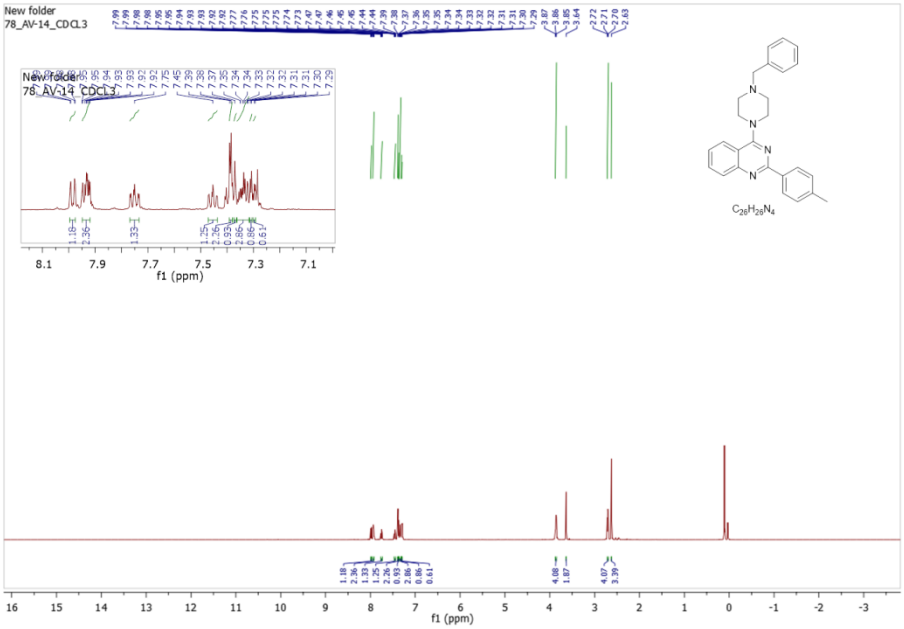

Figure 8.47. ^{1}H NMR Spectra of **AV-14**

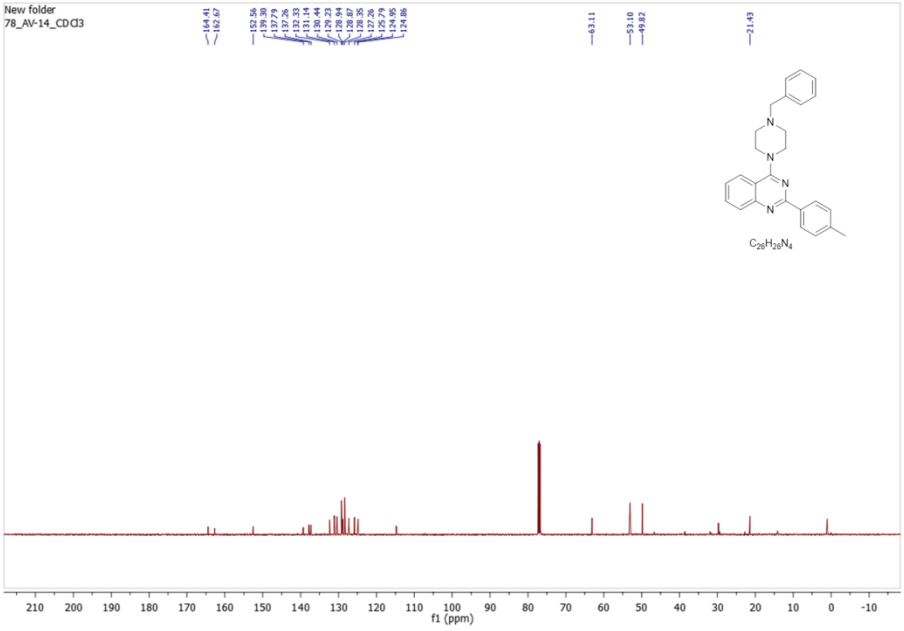

Figure 8.48. ^{13}C NMR Spectra of **AV-14**

4-(4-Benzhydrylpiperazin-1-yl)-2-(4-nitrophenyl)quinazoline (AV-16)

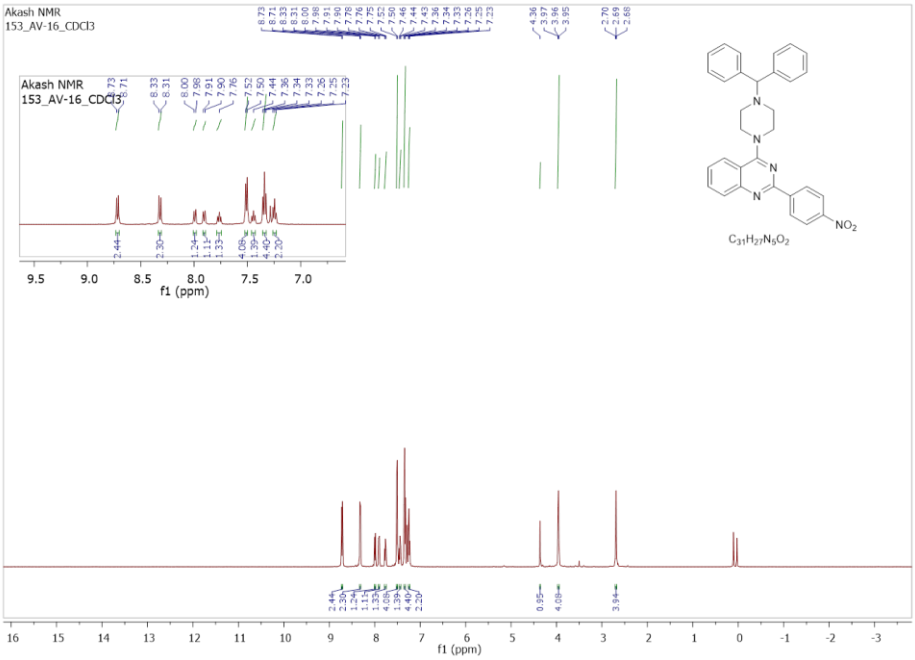

Figure 8.49. ^{1}H NMR Spectra of **AV-16**

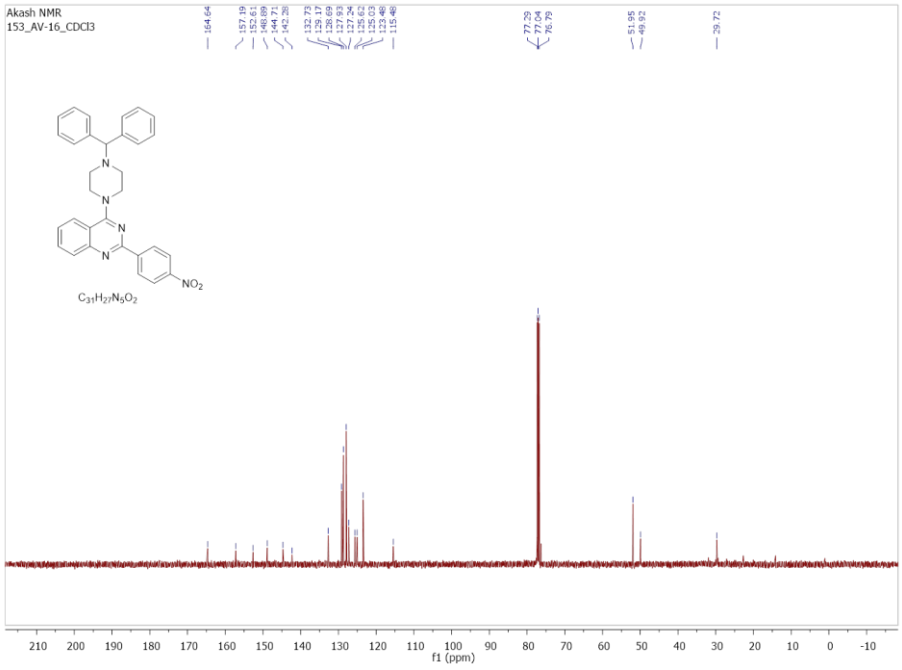

Figure 8.50. ^{13}C NMR Spectra of **AV-16**

4-(4-Benzylpiperazin-1-yl)-2-(4-nitrophenyl)quinazoline (AV-17)

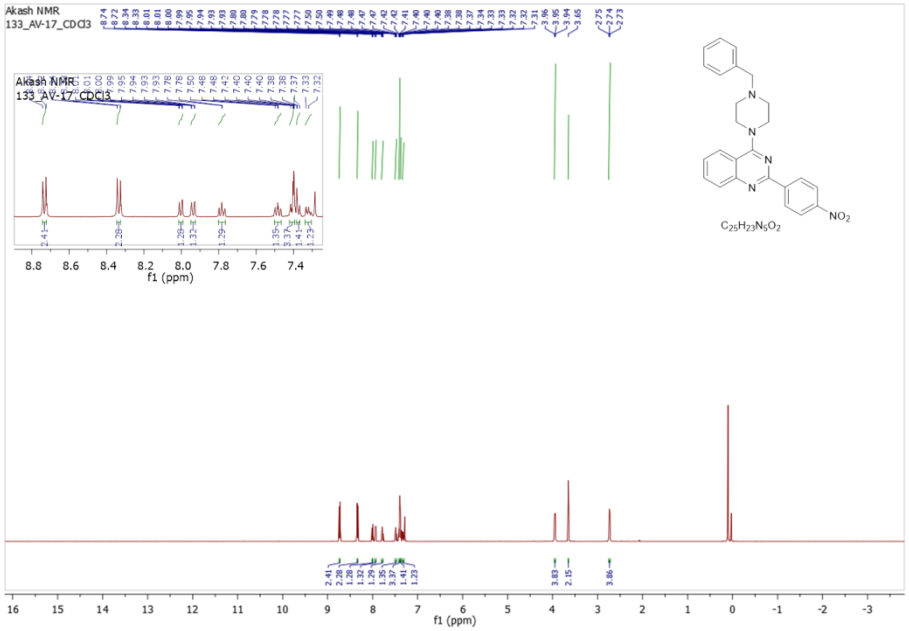

Figure 8.51. ^{1}H NMR Spectra of **AV-17**

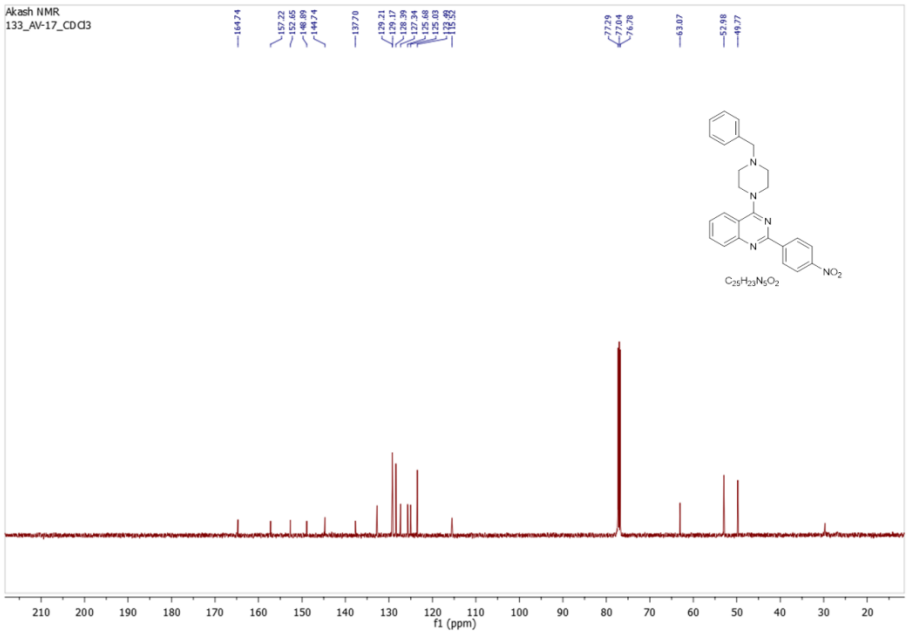

Figure 8.52. ^{13}C NMR Spectra of **AV-17**

4-(4-Benzhydrylpiperazin-1-yl)-2-(4-(trifluoromethoxy)phenyl)quinazoline (AV-19)

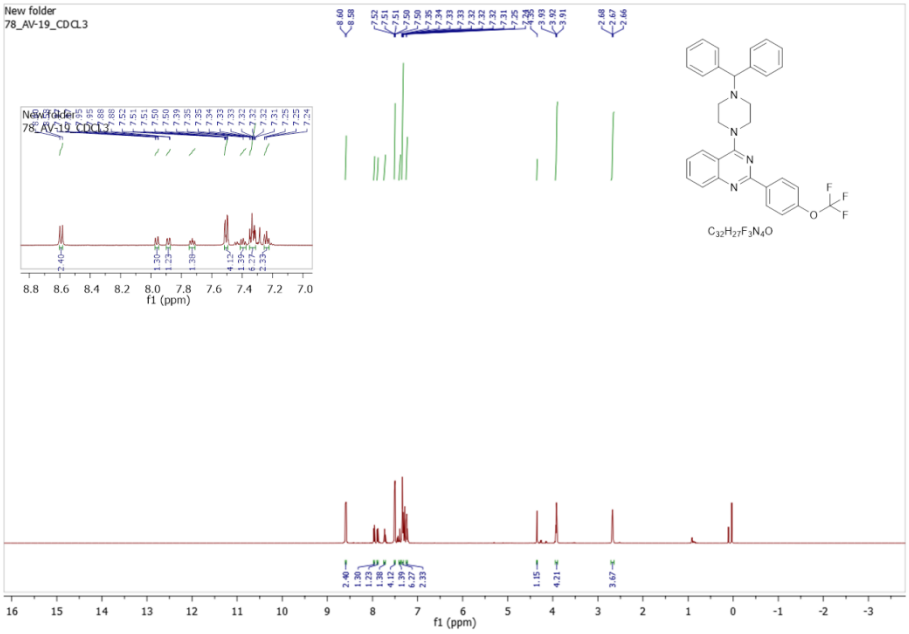

Figure 8.53. ^{1}H NMR Spectra of **AV-19**

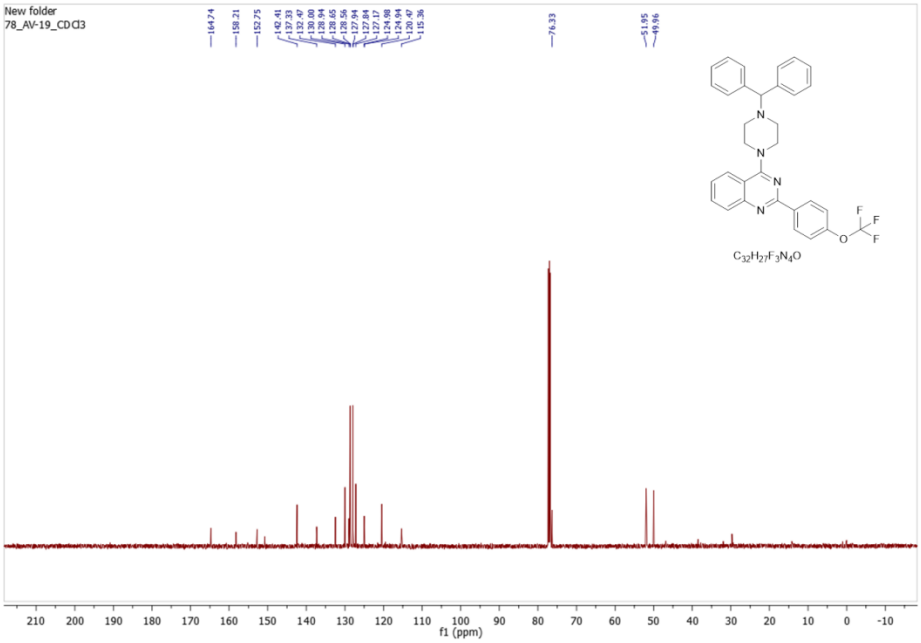

Figure 8.54. ^{13}C NMR Spectra of **AV-19**

4-(4-Benzylpiperazin-1-yl)-2-(4-(trifluoromethoxy)phenyl)quinazoline (AV-20)

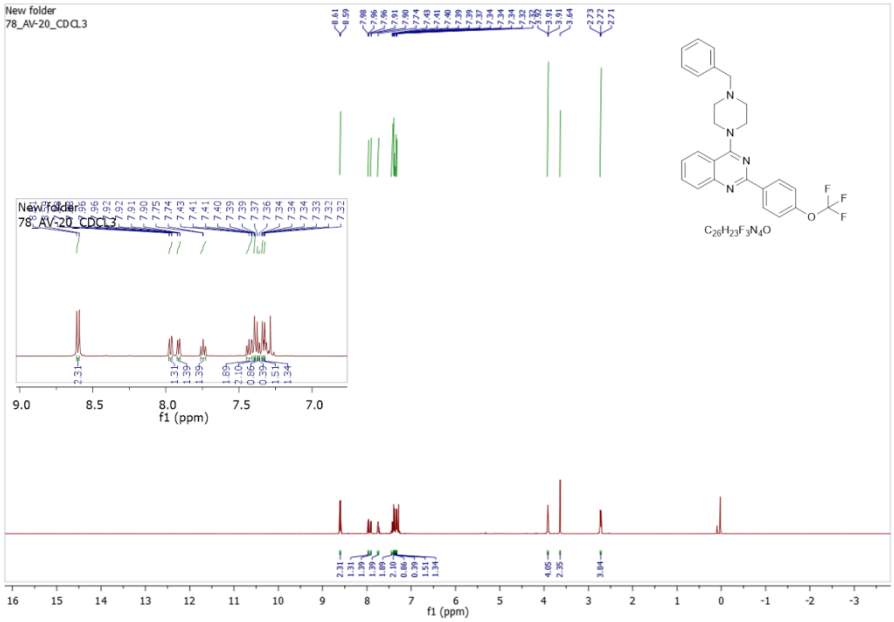

Figure 8.55. ^{1}H NMR Spectra of **AV-20**

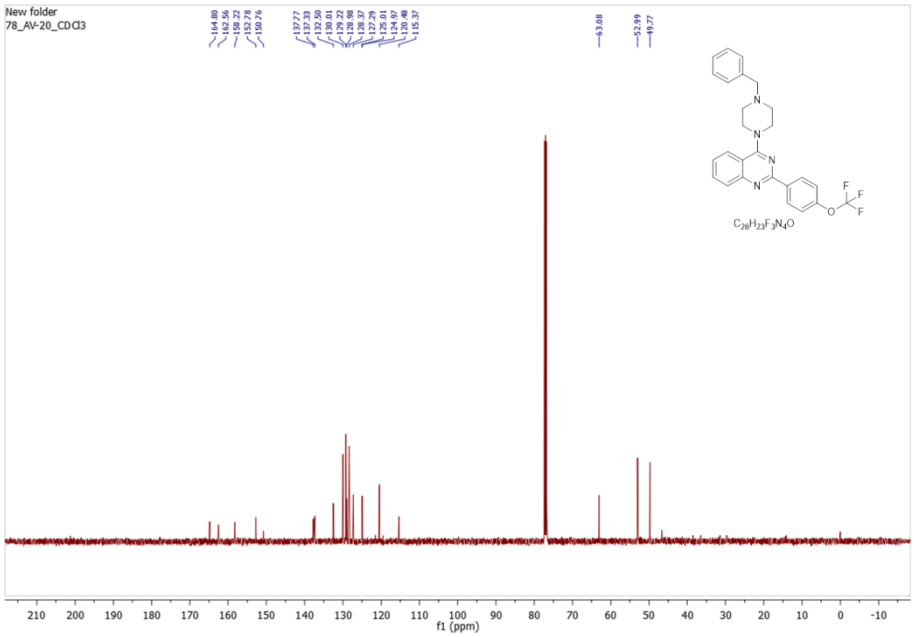

Figure 8.56. ^{13}C NMR Spectra of **AV-20**

4-(4-(4-Nitrophenyl)piperazin-1-yl)-2-(4(trifluoromethoxy)phenyl)quinazoline (AV-21)

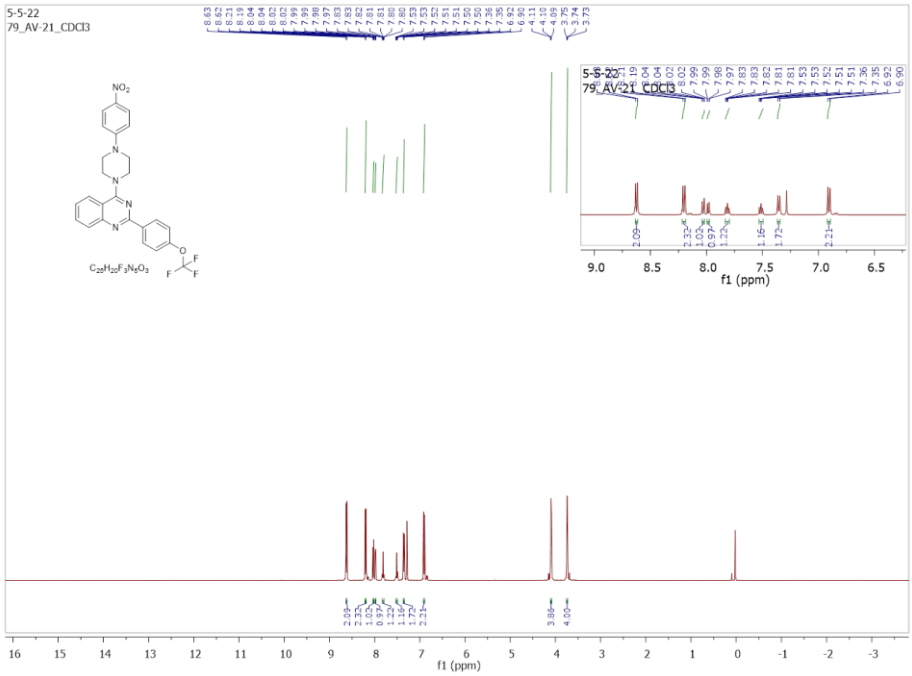

Figure 8.57. ^{1}H NMR Spectra of **AV-21**

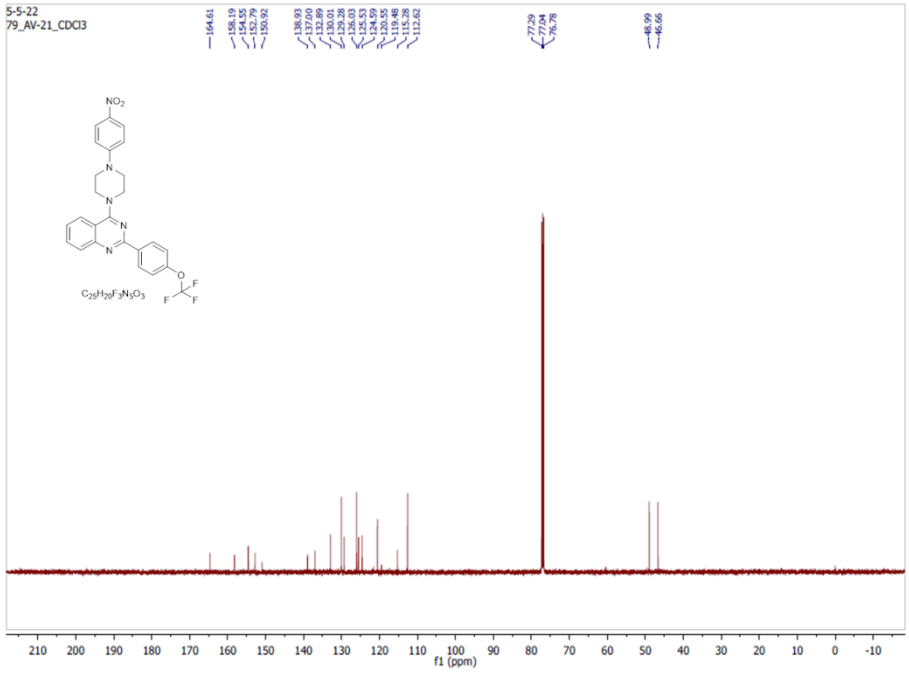

Figure 8.58. ^{13}C NMR Spectra of **AV-21**

6,7-dimethoxyquinazolin-4(3*H*)-one (2b)

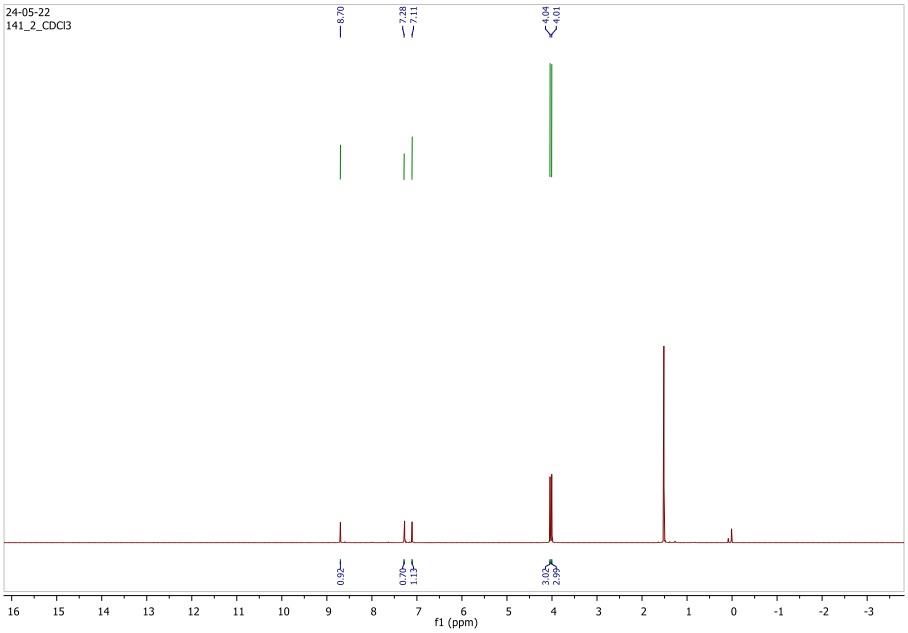

Figure 8.59. ^{1}H NMR spectra of compound **2b**.

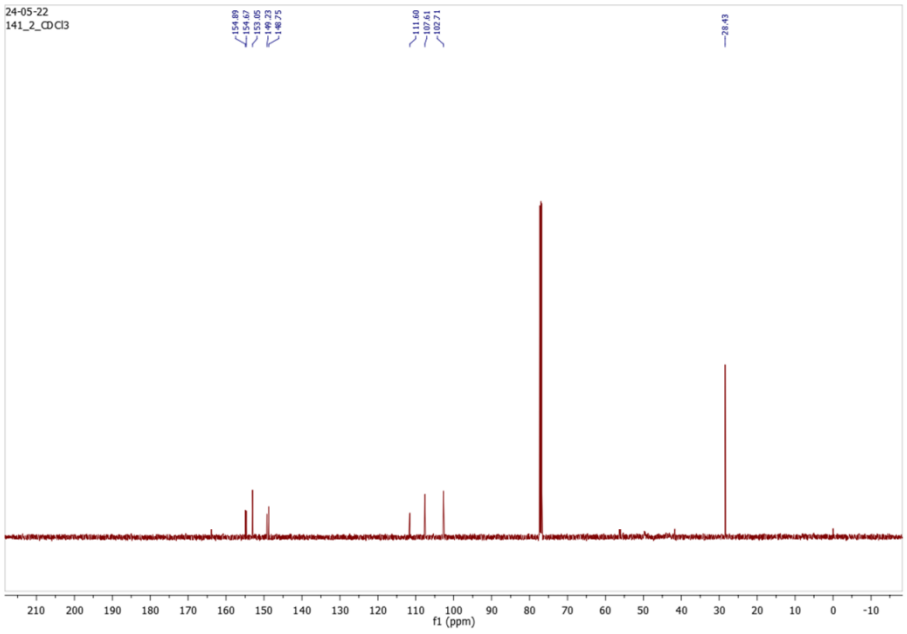

Figure 8.60. ^{13}C NMR spectra of compound **2b**.

4-chloro-6,7-dimethoxyquinazoline (3b)

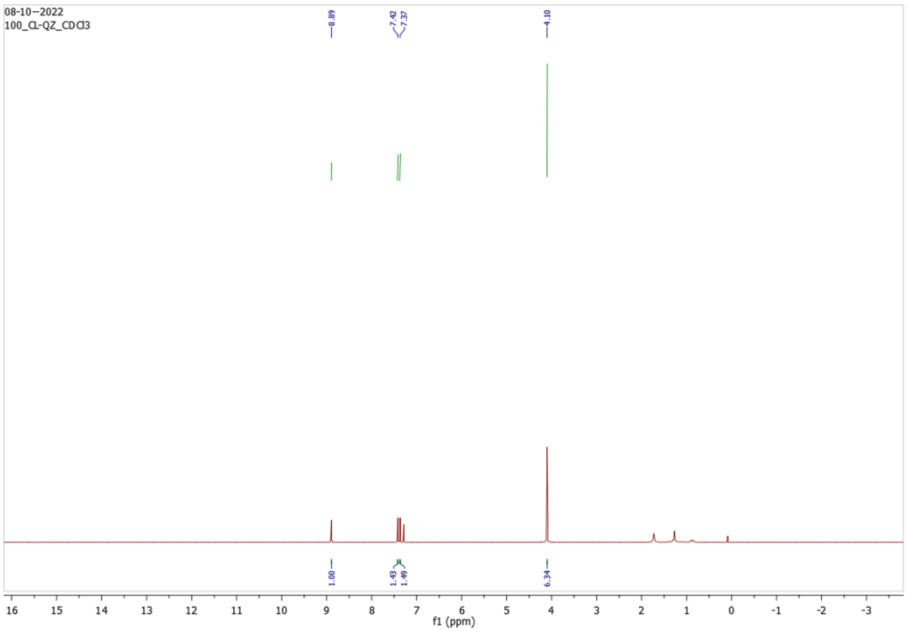

Figure 8.61. ^{1}H NMR spectra of compound **3b**.

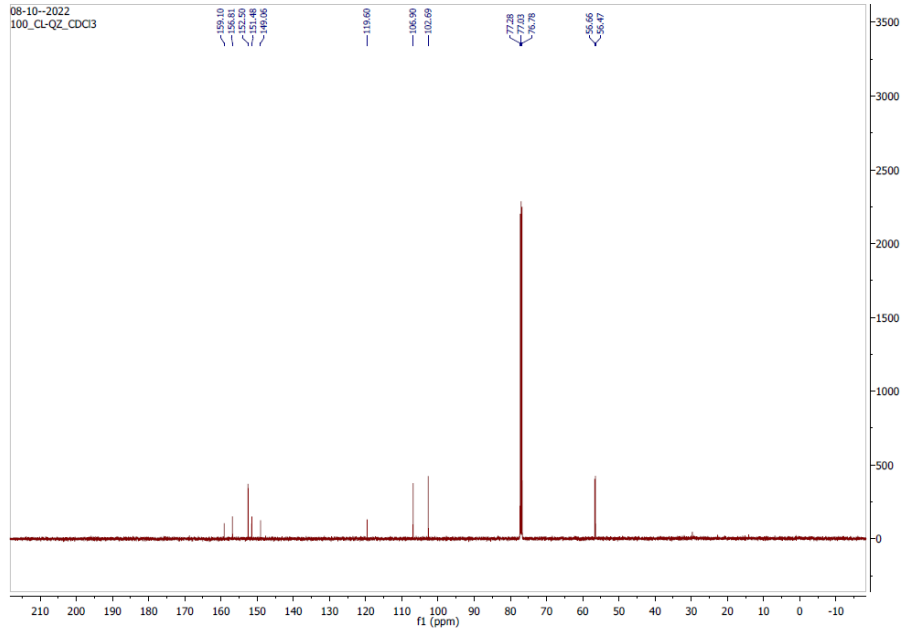

Figure 8.62. ^{13}C NMR spectra of compound **3b**.

4-(4-benzhydrylpiperazin-1-yl)-6,7-dimethoxyquinazoline (AK-01)

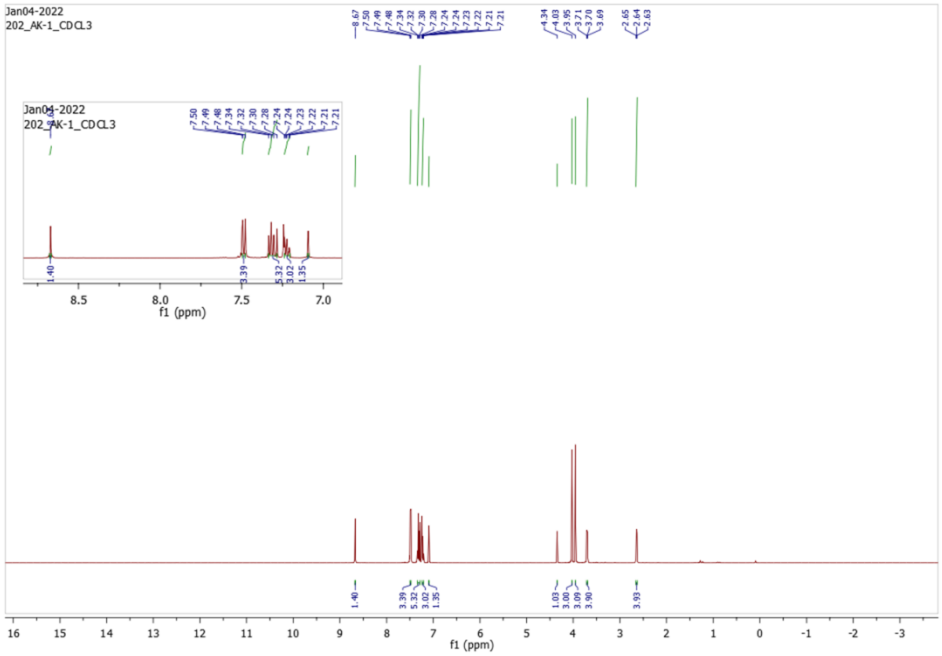

Figure 8.63. ^{1}H NMR spectra of compound **AK-01**.

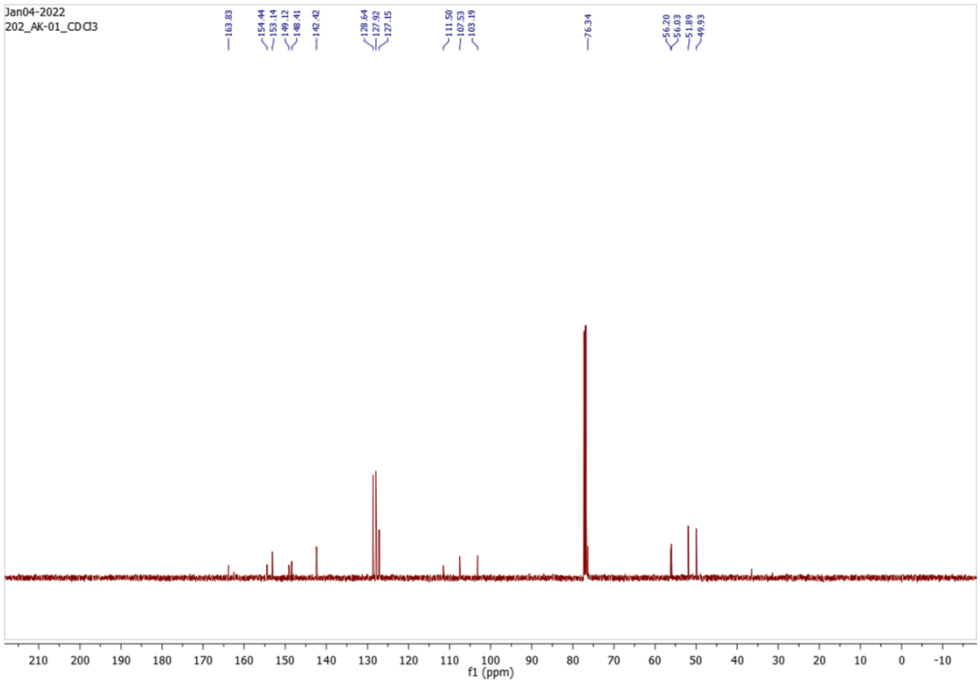

Figure 8.64. ^{13}C NMR spectra of compound **AK-01**.

4-(4-benzylpiperazin-1-yl)-6,7-dimethoxyquinazoline (AK-02)

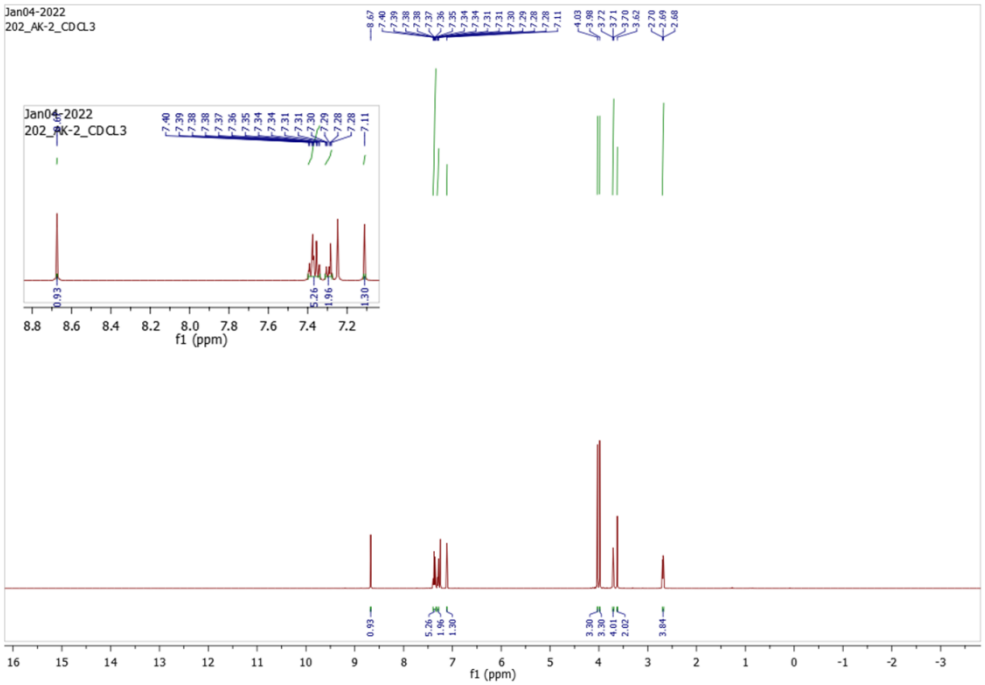

Figure 8.65. ^{1}H NMR spectra of compound **AK-02**.

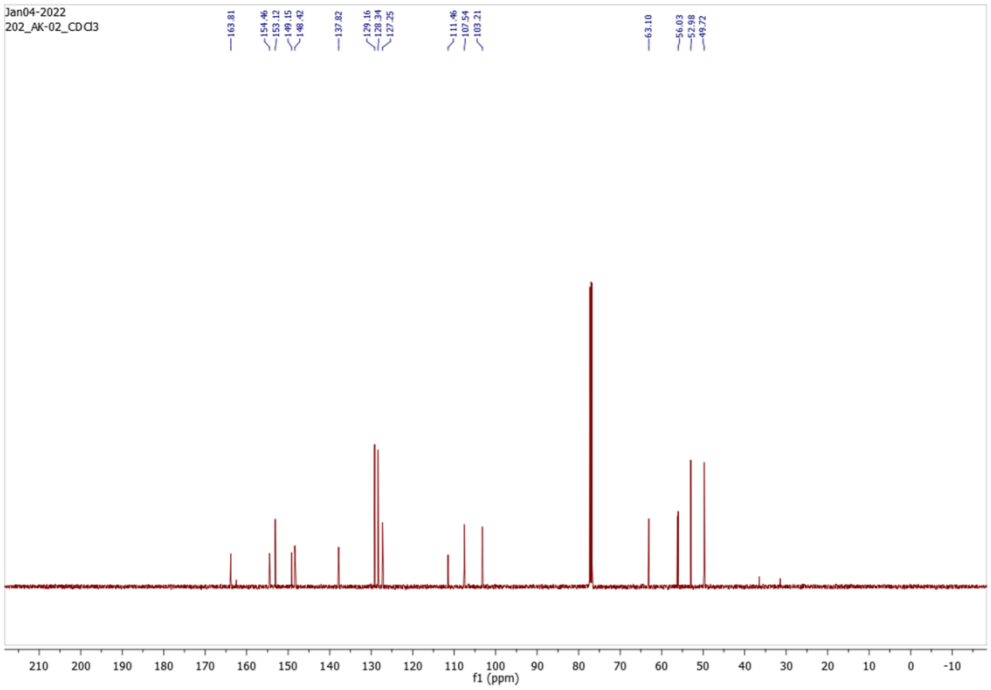

Figure 8.66. ^{13}C NMR spectra of compound **AK-02**.

6,7-dimethoxy-4-(4-(4-nitrophenyl)piperazin-1-yl)quinazoline (AK-03)

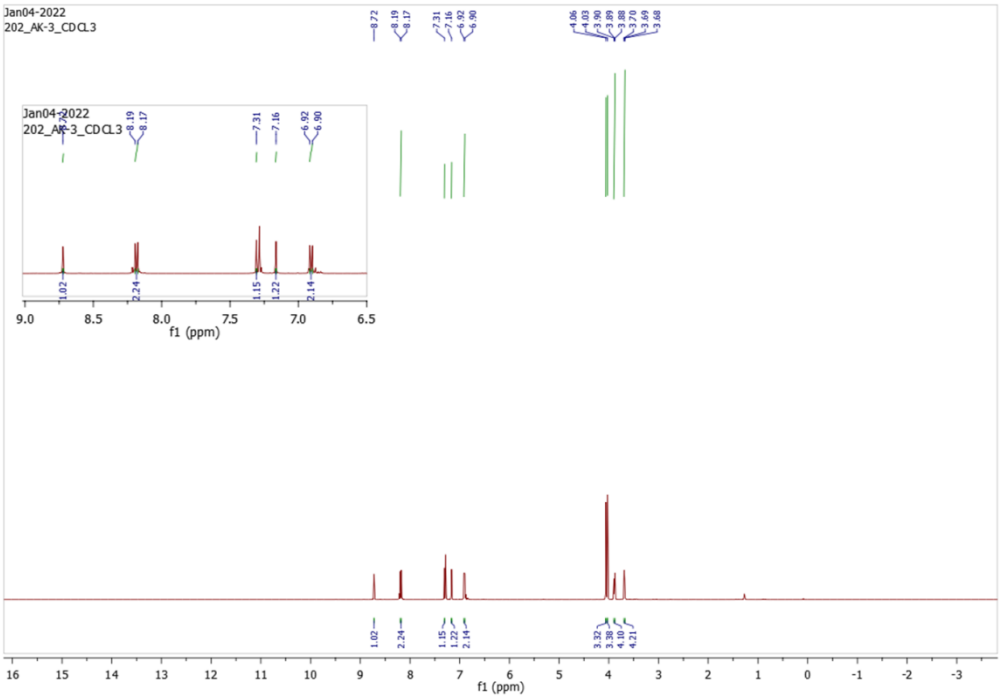

Figure 8.67. ^{1}H NMR spectra of compound **AK-03**.

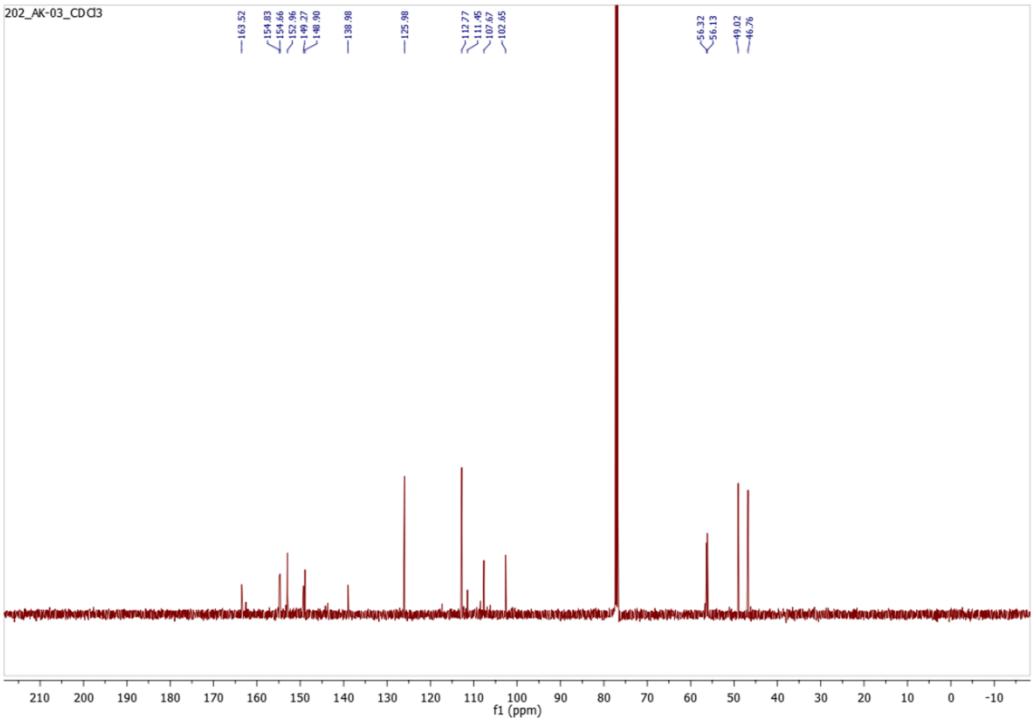

Figure 8.68. ^{13}C NMR spectra of compound **AK-03**.

6,7-dimethoxy-4-(4-phenylpiperazin-1-yl)quinazoline (AK-04)

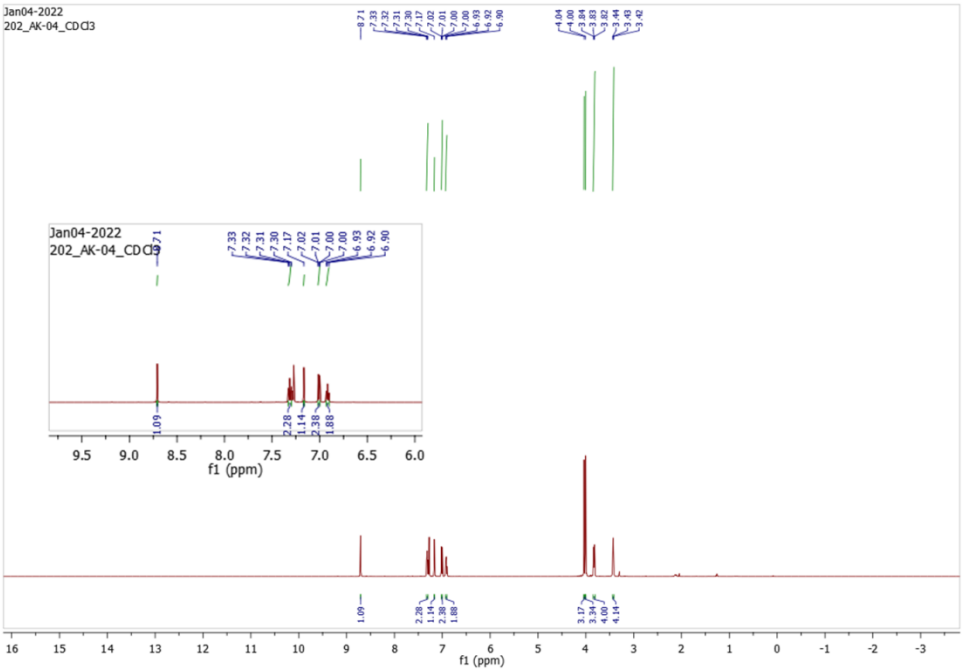

Figure 8.69. ^{1}H NMR spectra of compound **AK-04**.

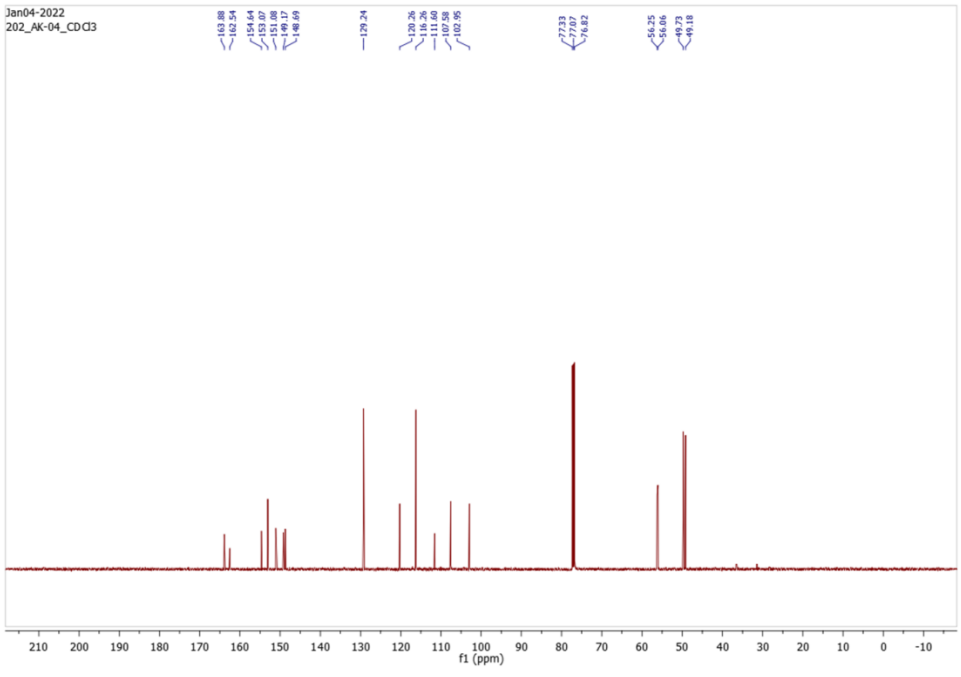

Figure 8.70. ^{13}C NMR spectra of compound **AK-04**.

6,7-dimethoxy-4-(4-(pyridin-2-yl)piperazin-1-yl)quinazoline (AK-05)

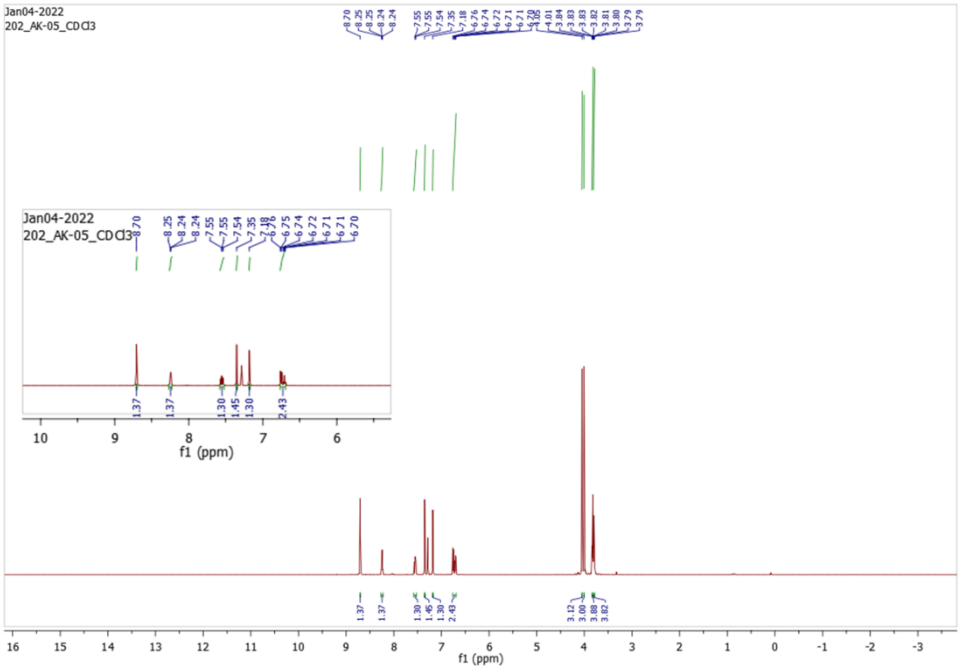

Figure 8.71. ^{1}H NMR spectra of compound **AK-05**.

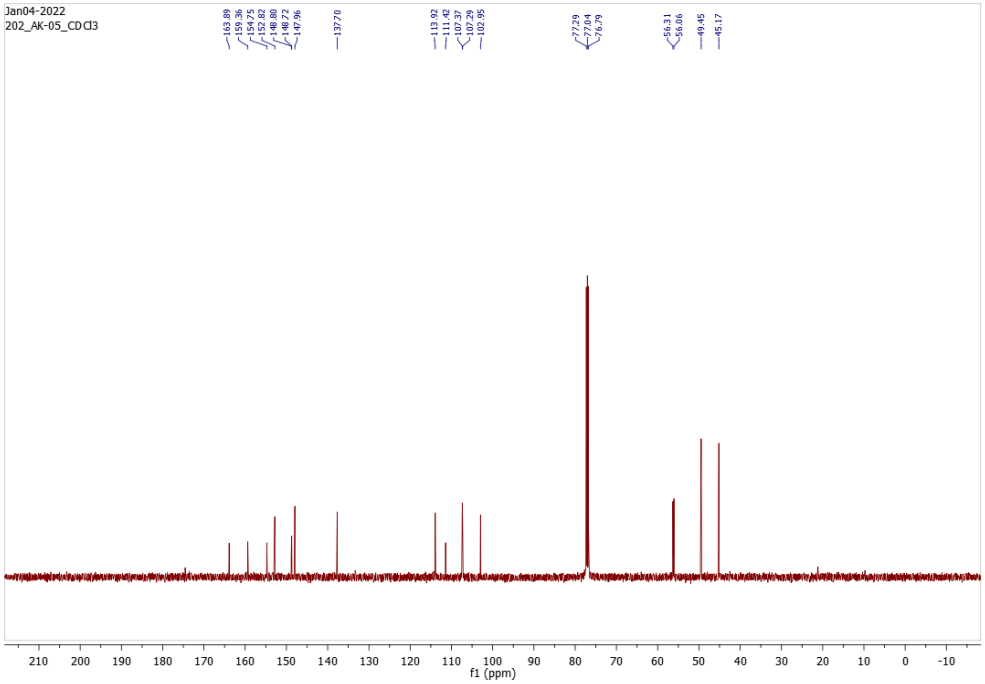

Figure 8.72. ^{13}C NMR spectra of compound **AK-05**.

4-(4-(4-chlorobenzyl)piperazin-1-yl)-6,7-dimethoxyquinazoline (AK-06)

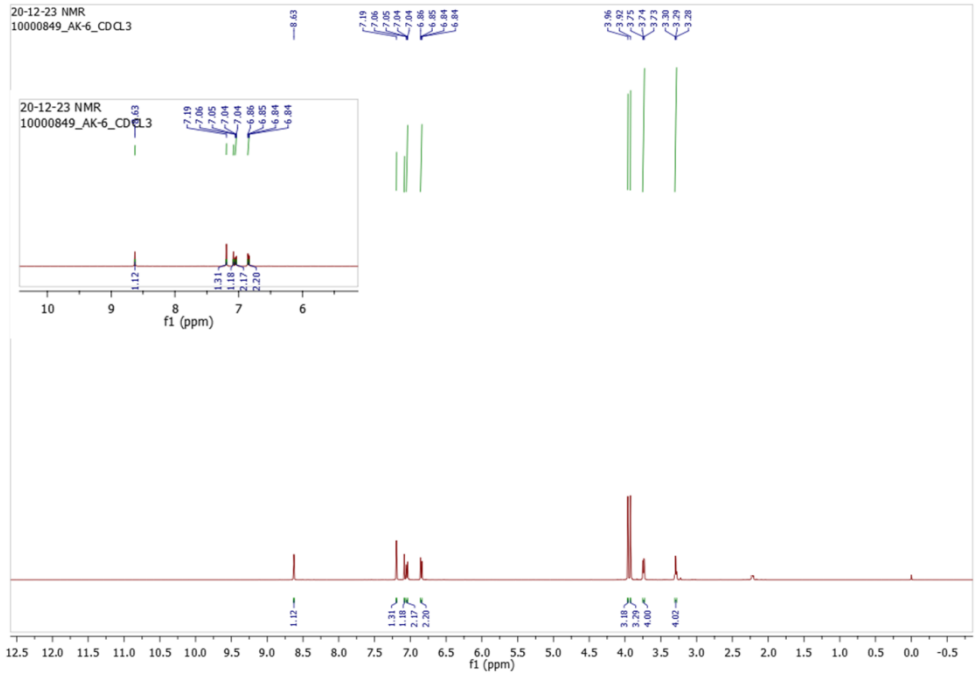

Figure 8.73. ^{1}H NMR spectra of compound **AK-06**.

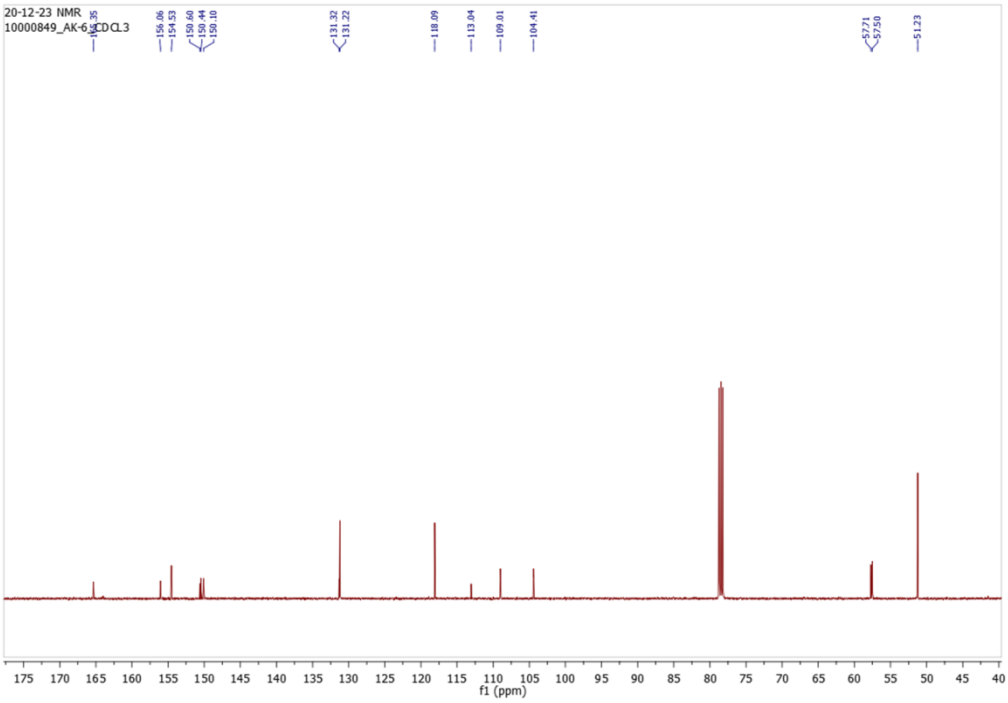

Figure 8.74. ^{13}C NMR spectra of compound **AK-06**.

4-(4-(4-fluorophenyl)piperazin-1-yl)-6,7-dimethoxyquinazoline (AK-07)

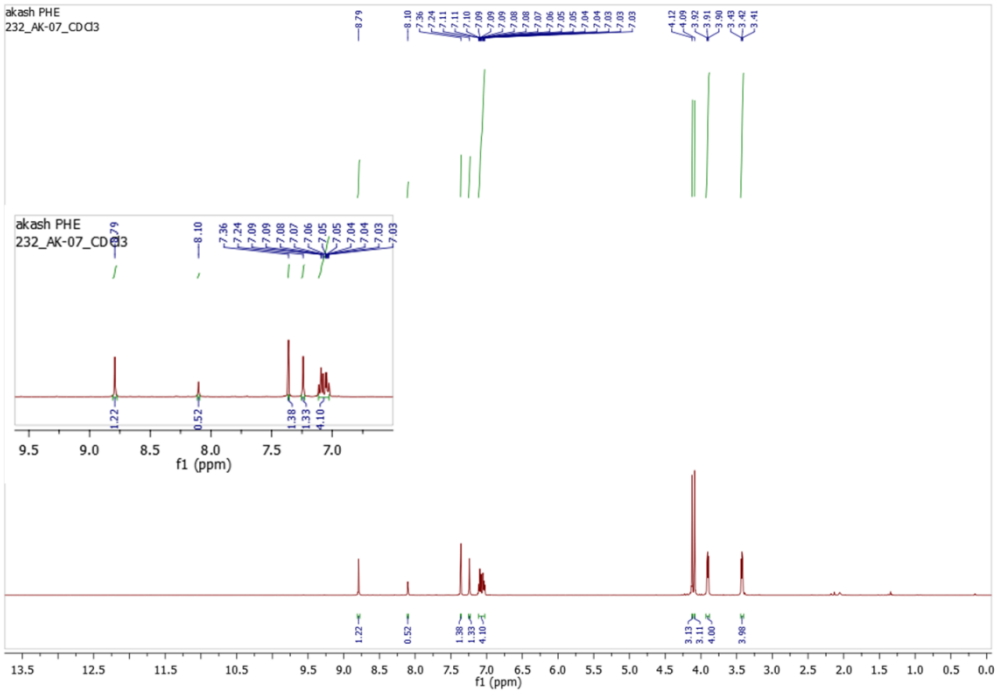

Figure 8.75. ^{1}H NMR spectra of compound **AK-07**.

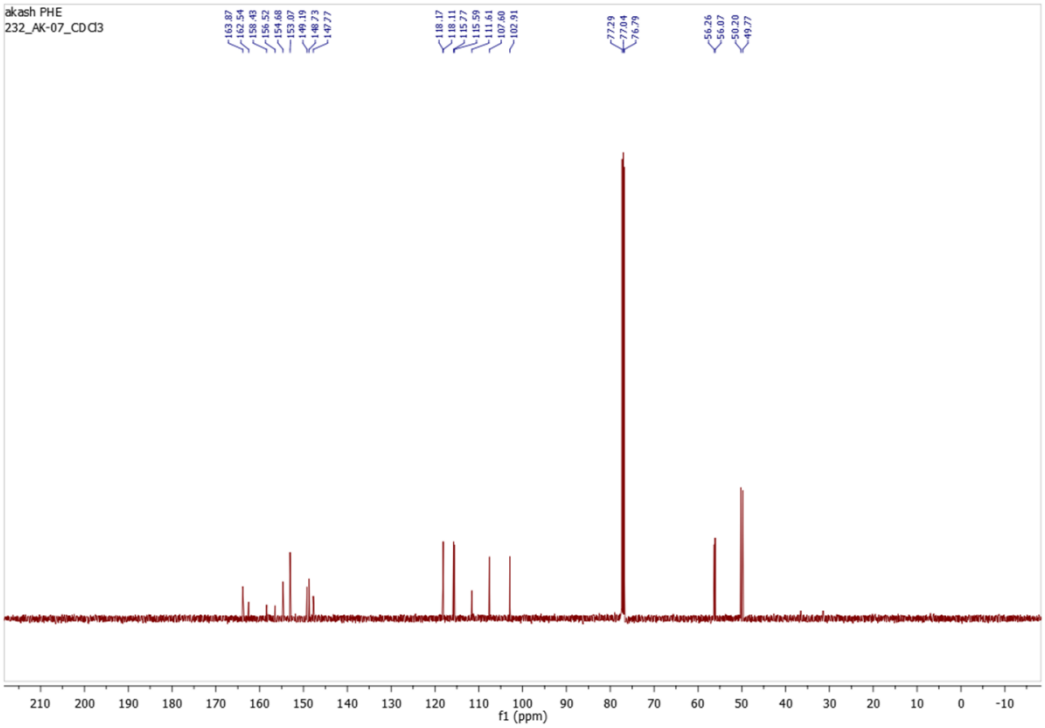

Figure 8.76. ^{13}C NMR spectra of compound **AK-07**.

4-(4-(4-fluorobenzyl)piperazin-1-yl)-6,7-dimethoxyquinazoline (AK-08)

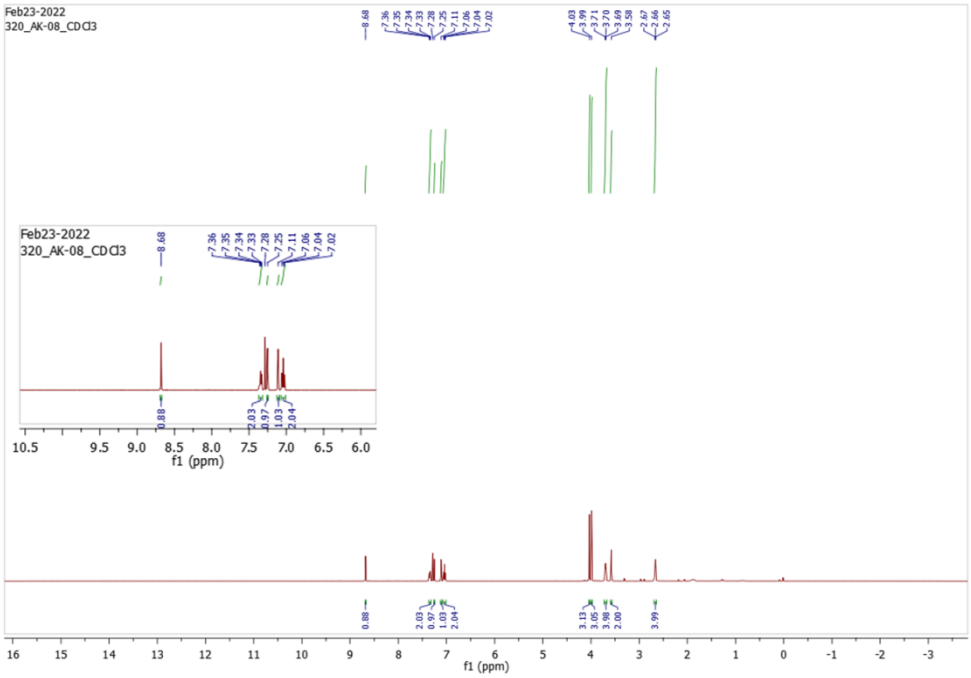

Figure 8.77. ^{1}H NMR spectra of compound **AK-08**.

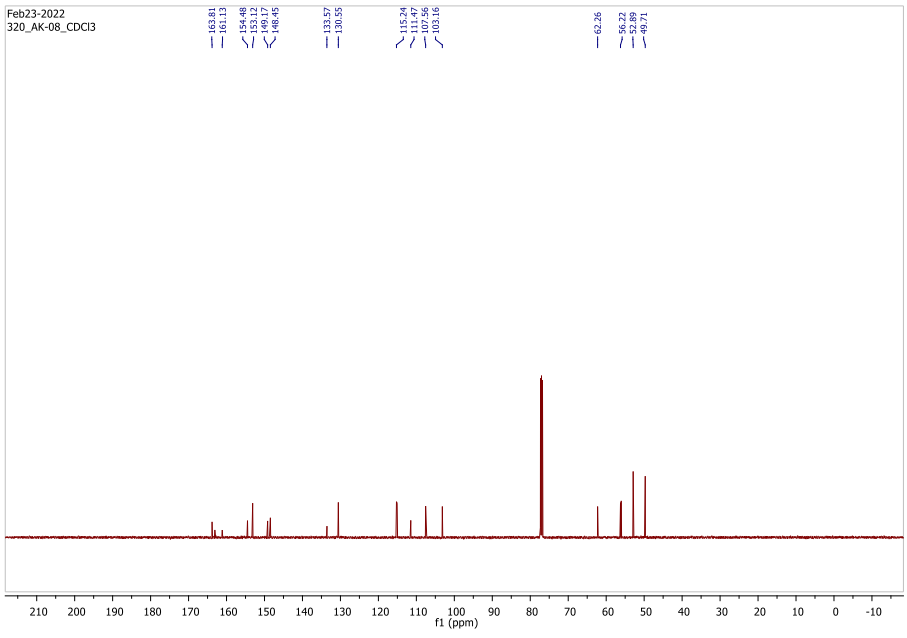

Figure 8.78. ^{13}C NMR spectra of compound **AK-08**.

6,7-dimethoxy-4-(4-(4-methylbenzyl)piperazin-1-yl)quinazoline (AK-9)

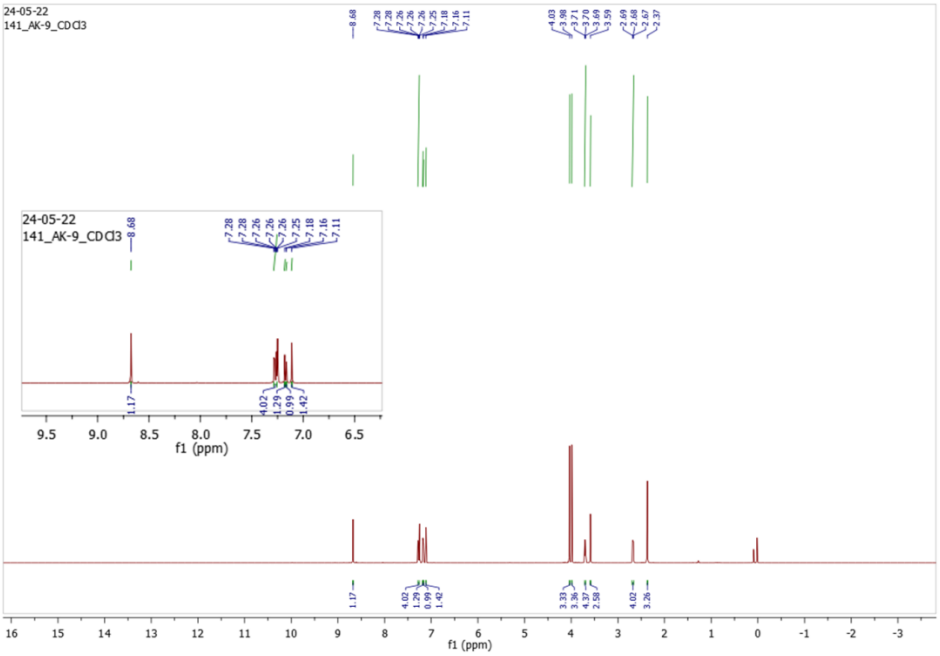

Figure 8.79. ^{1}H NMR spectra of compound **AK-09**.

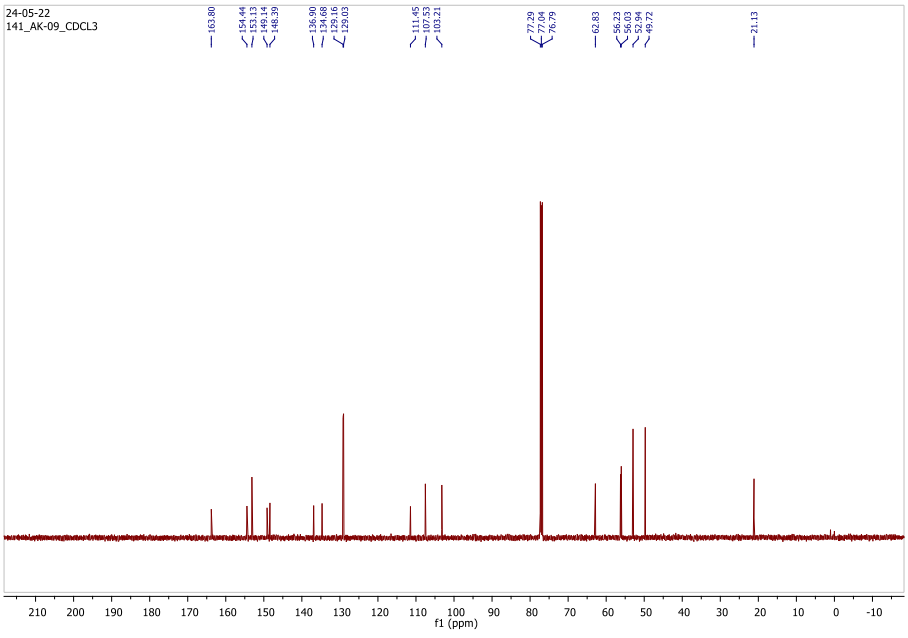

Figure 8.80. ^{13}C NMR spectra of compound **AK-09**.

6,7-dimethoxy-4-(4-methylpiperazin-1-yl)quinazoline (AK-10)

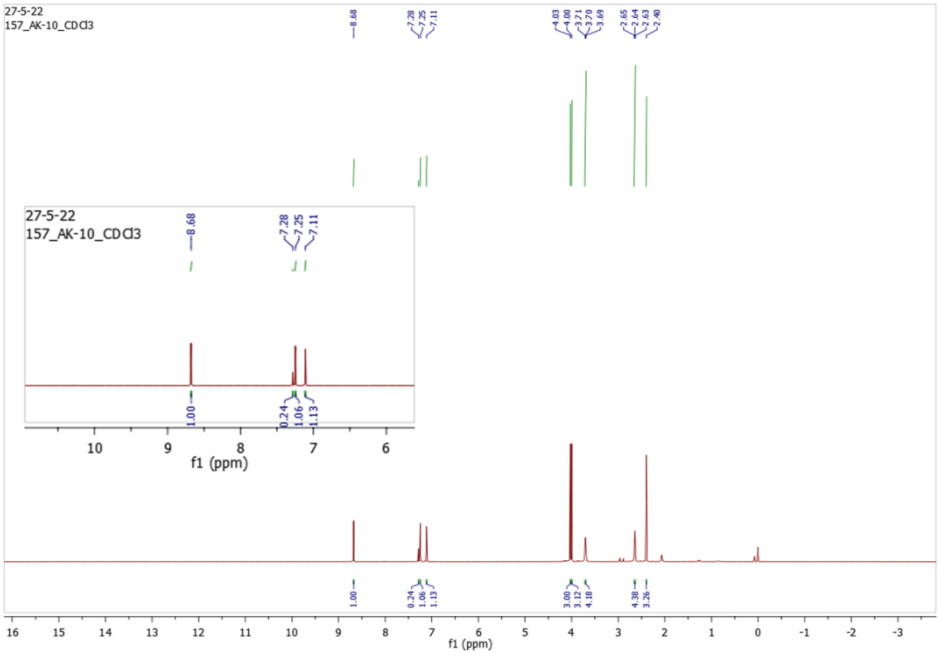

Figure 8.81. ^{1}H NMR spectra of compound **AK-10**.

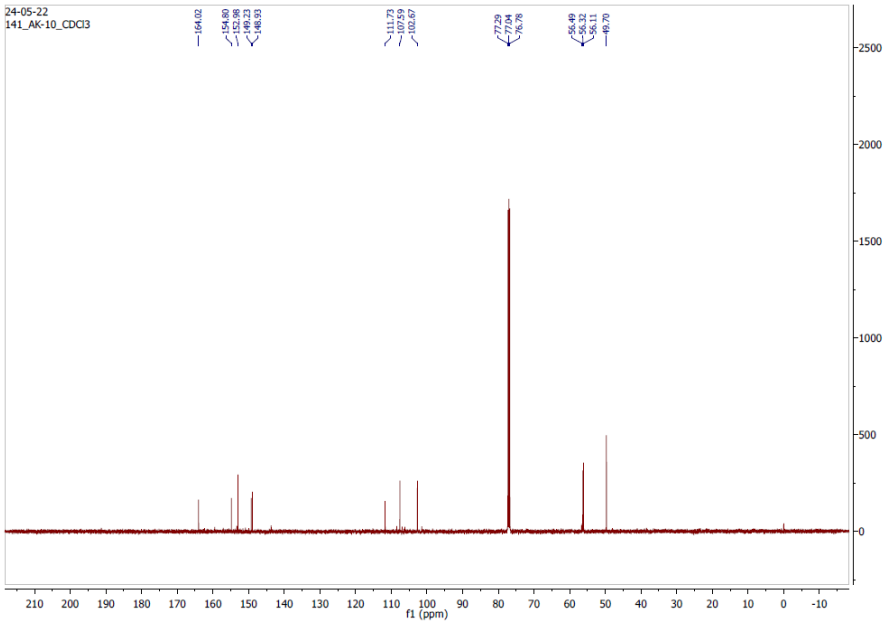

Figure 8.82. ^{13}C NMR spectra of compound **AK-10**.

1-(4-(6,7-dimethoxyquinazolin-4-yl)piperazin-1-yl)ethan-1-one (AK-11)

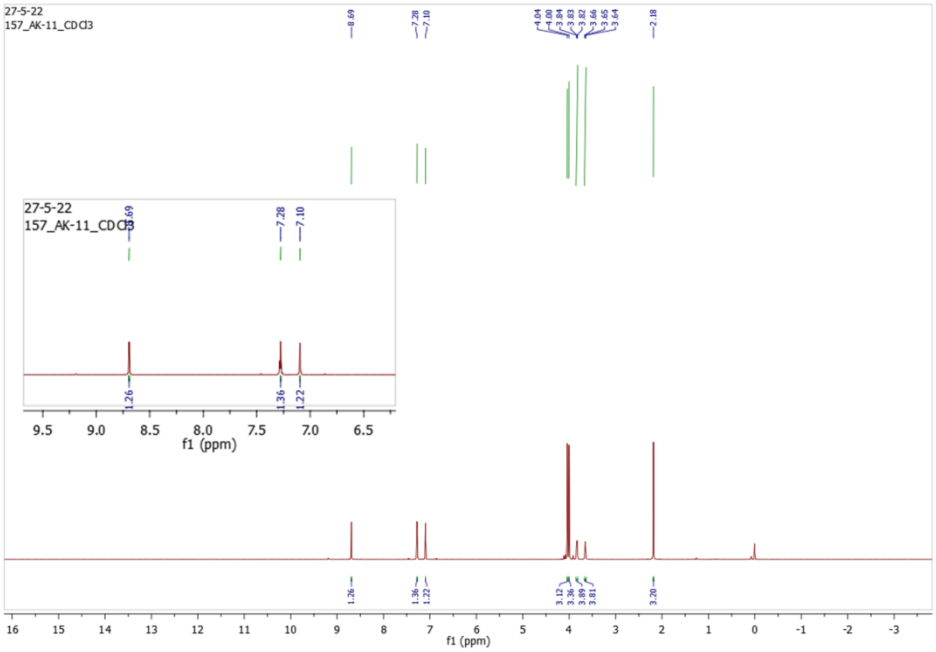

Figure 8.83. ^{1}H NMR spectra of compound **AK-11**.

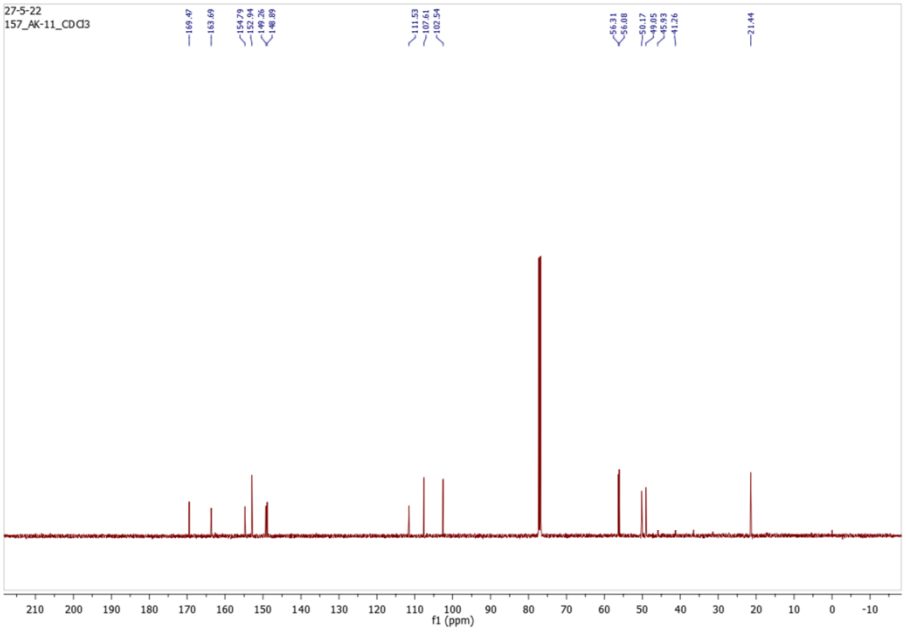

Figure 8.84. ^{13}C NMR spectra of compound **AK-11**.

6,7-dimethoxy-4-(4-(p-tolyl)piperazin-1-yl)quinazoline (AK-12)

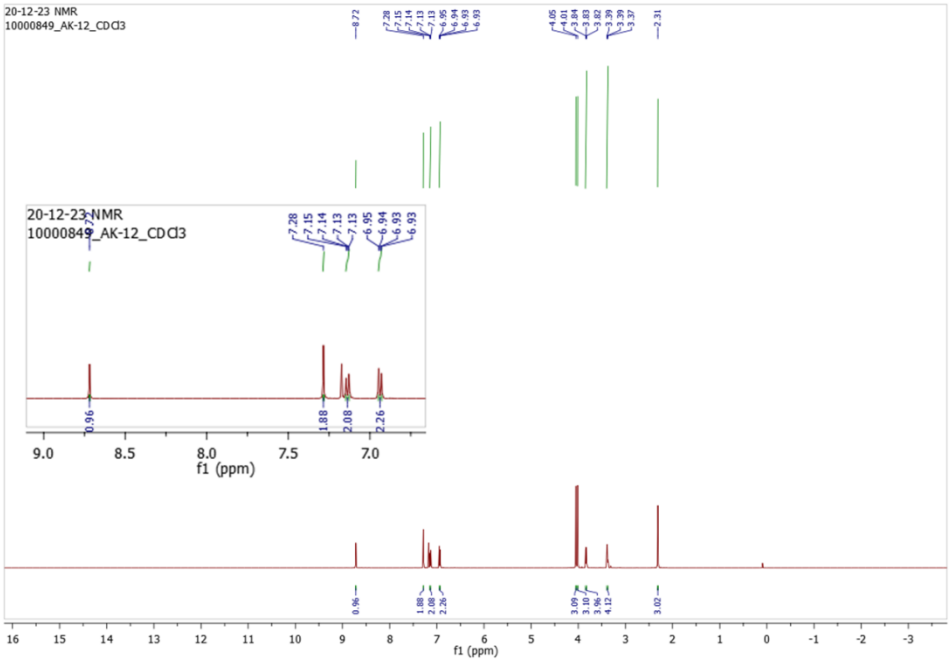

Figure 8.85. ^{1}H NMR spectra of compound **AK-12**.

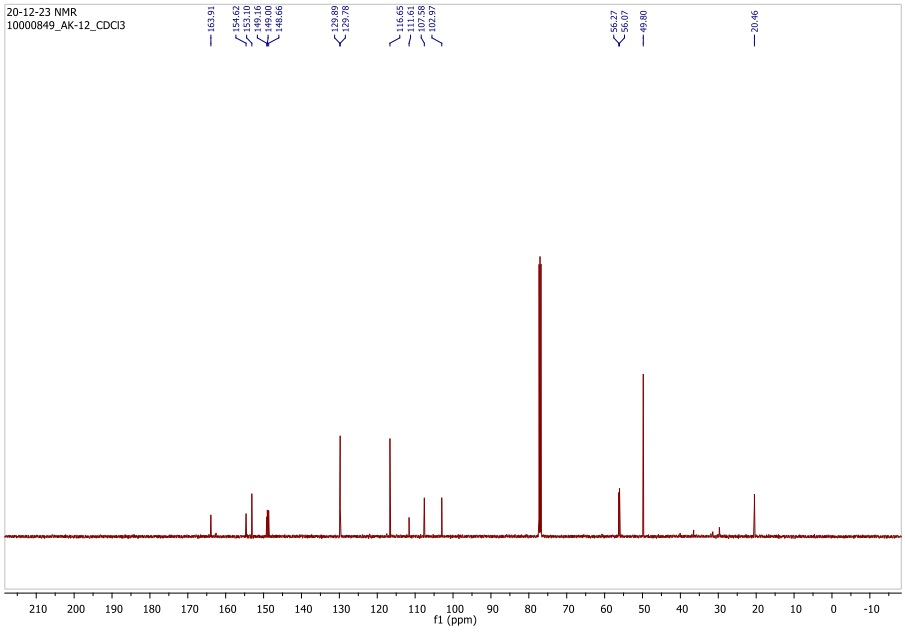

Figure 8.86. ^{13}C NMR spectra of compound **AK-12**.

4-(4-(4-bromophenyl)piperazin-1-yl)-6,7-dimethoxyquinazoline (AK-13)

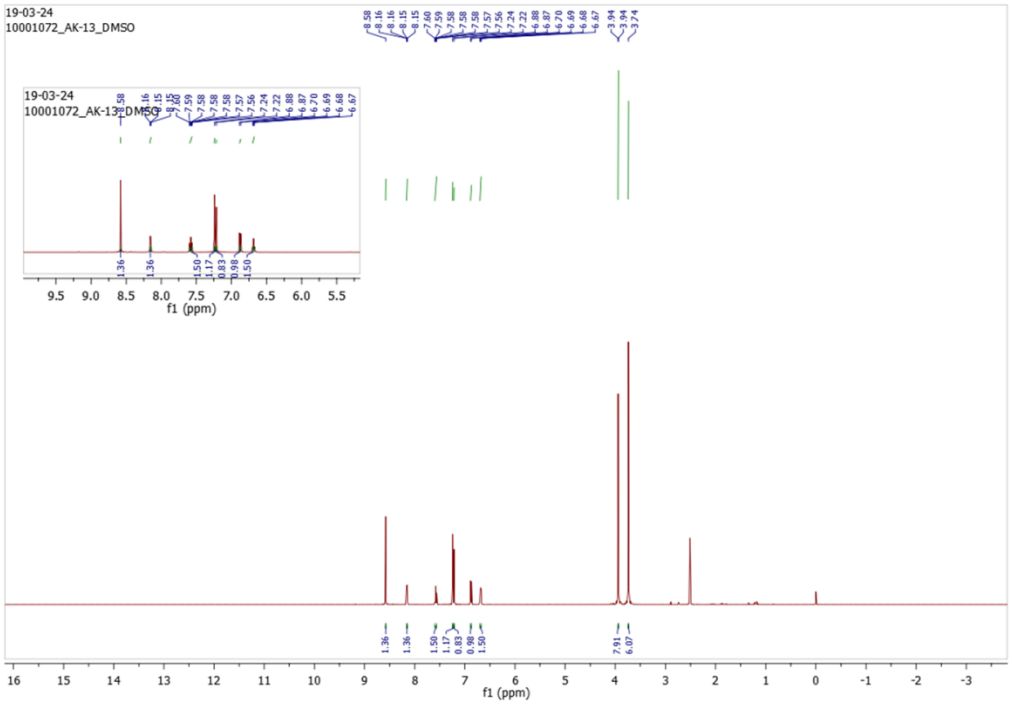

Figure 8.87. ^{1}H NMR spectra of compound **AK-13**.

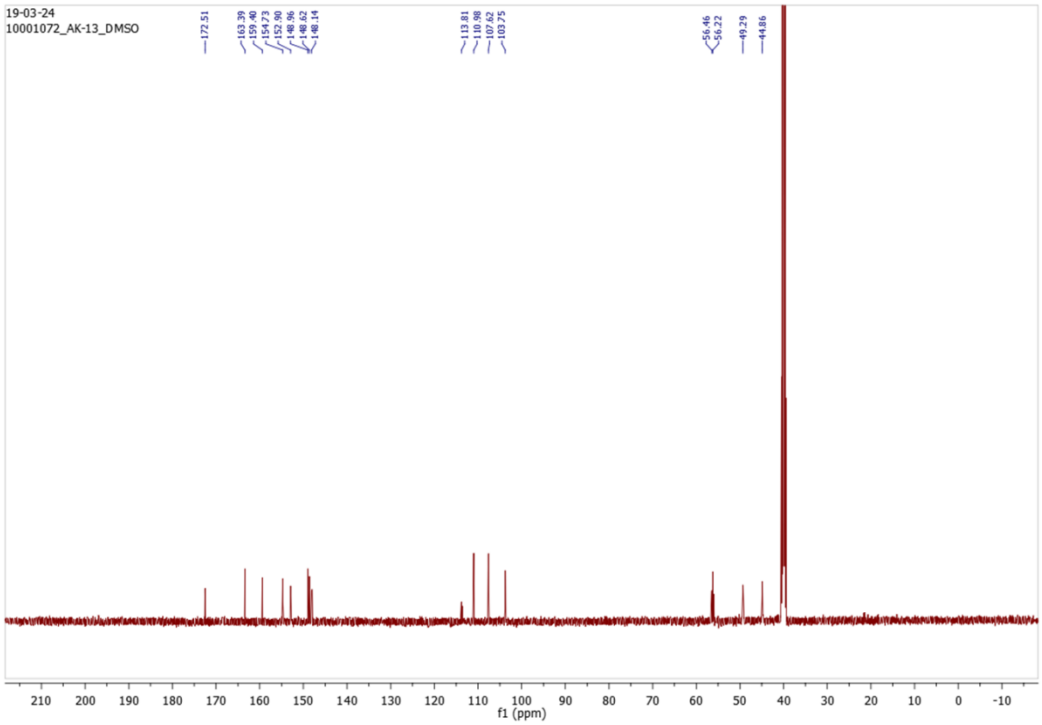

Figure 8.88. ^{13}C NMR spectra of compound **AK-13**.

6,7-dimethoxy-4-(4-(2-nitrophenyl)piperazin-1-yl)quinazoline (AK-14)

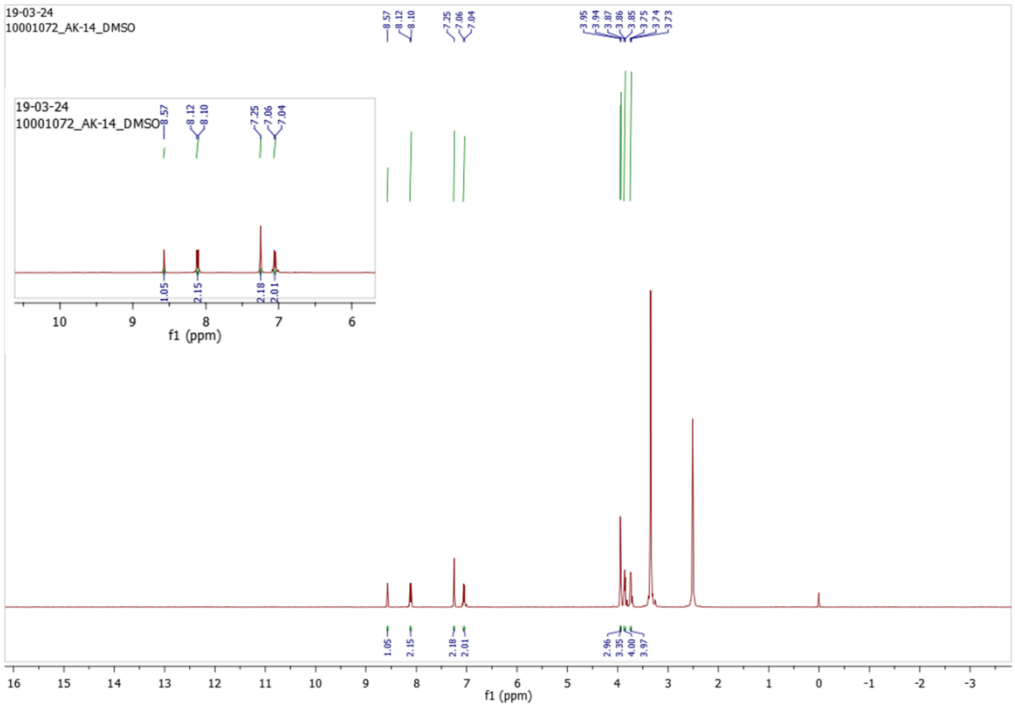

Figure 8.89. ^{1}H NMR spectra of compound **AK-14**.

8.2. Mass spectrum of the representative compounds

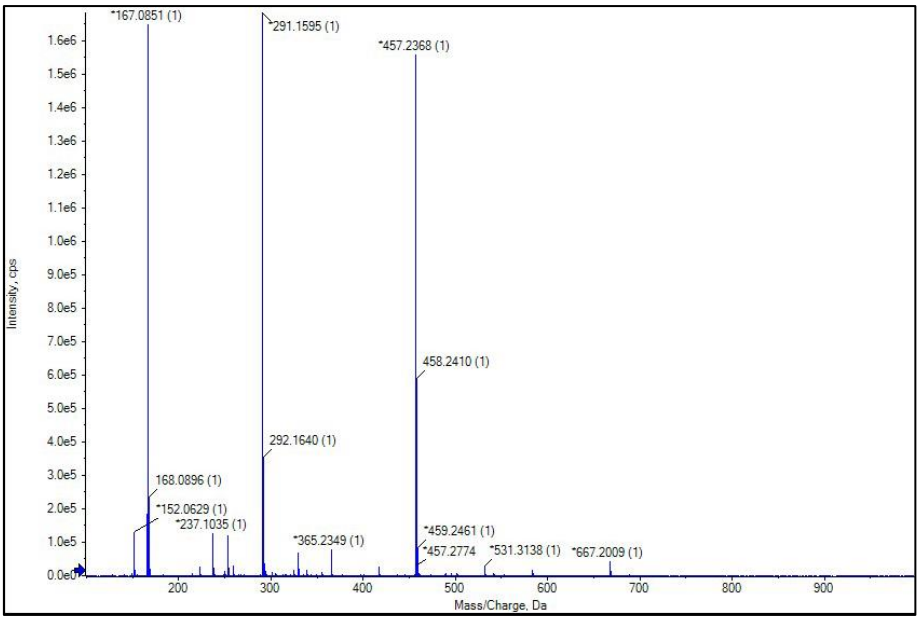

Figure 8.90. ESI-MS spectrum of **AV-1**

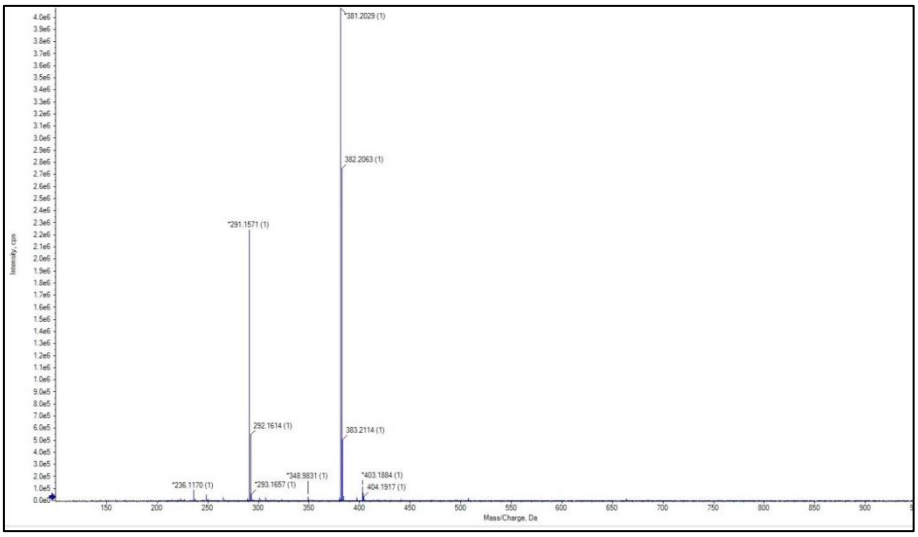

Figure 8.91. ESI-MS spectrum of **AV-2**

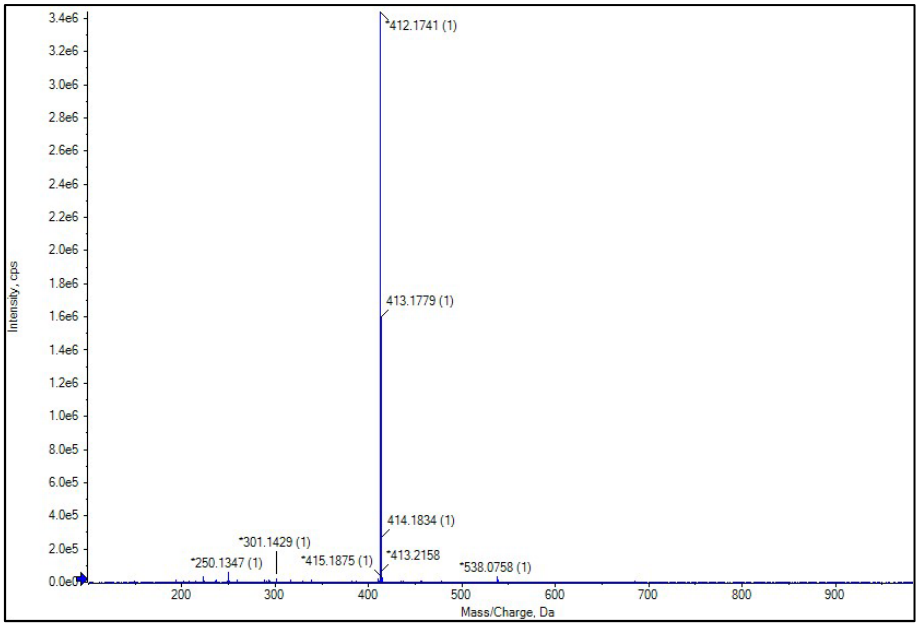

Figure 8.92. ESI-MS spectrum of **AV-3**

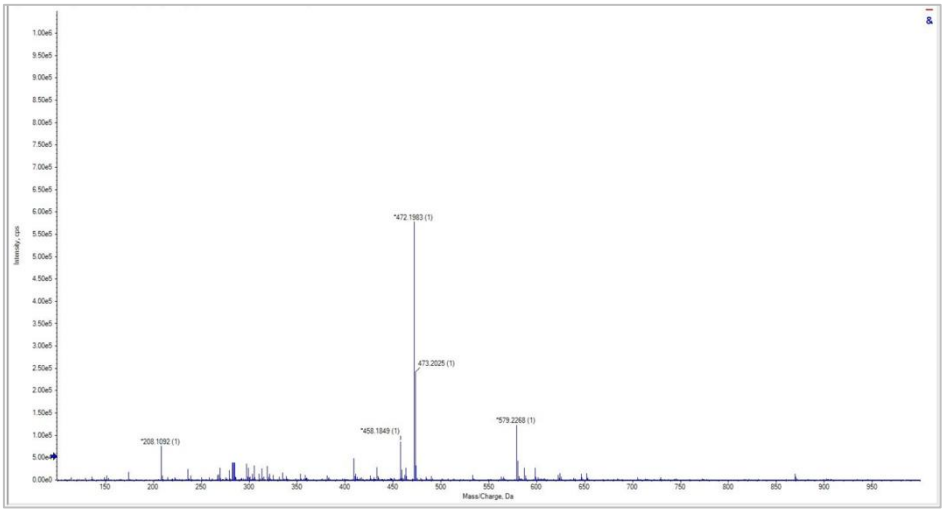

Figure 8.93. ESI-MS spectrum of **AV-4**

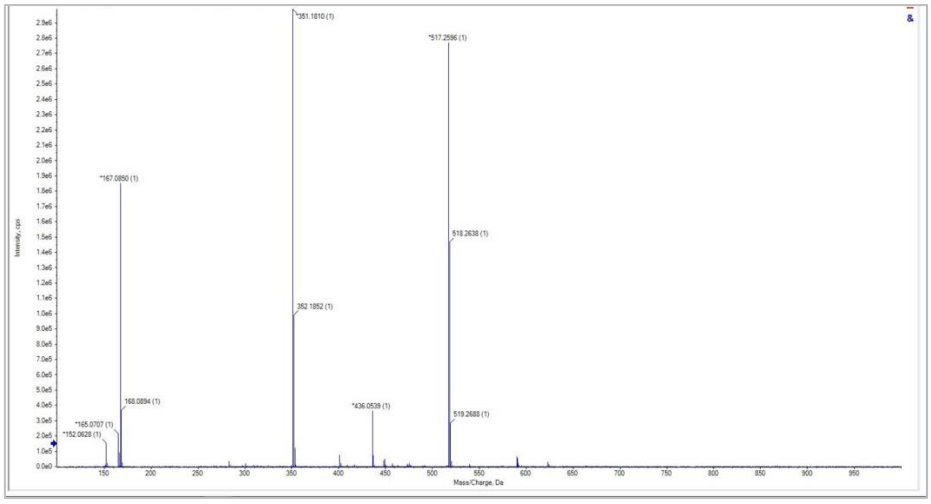

Figure 8.94. ESI-MS spectrum of **AV-7**

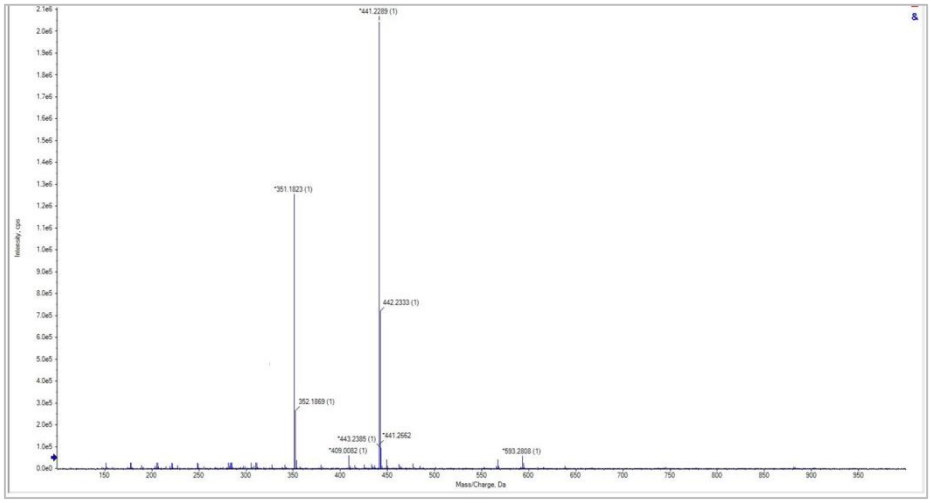

Figure 8.95. ESI-MS spectrum of **AV-8**

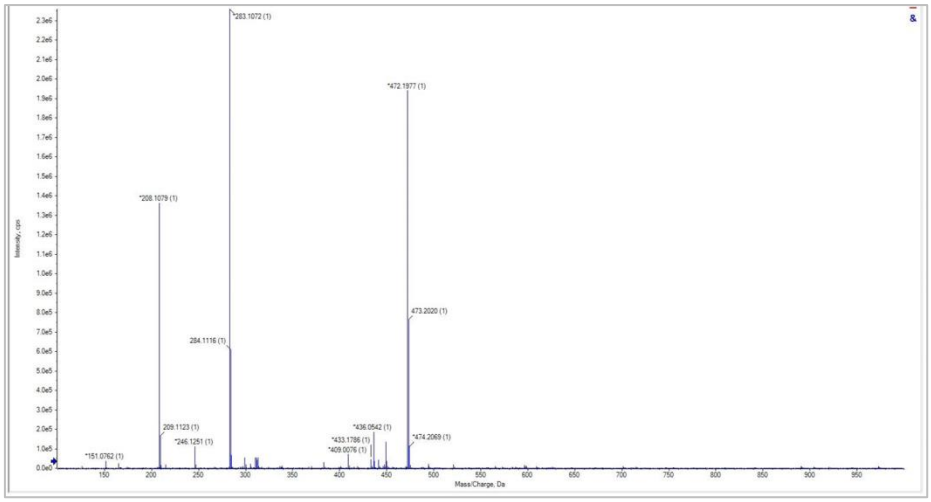

Figure 8.96. ESI-MS spectrum of **AV-9**

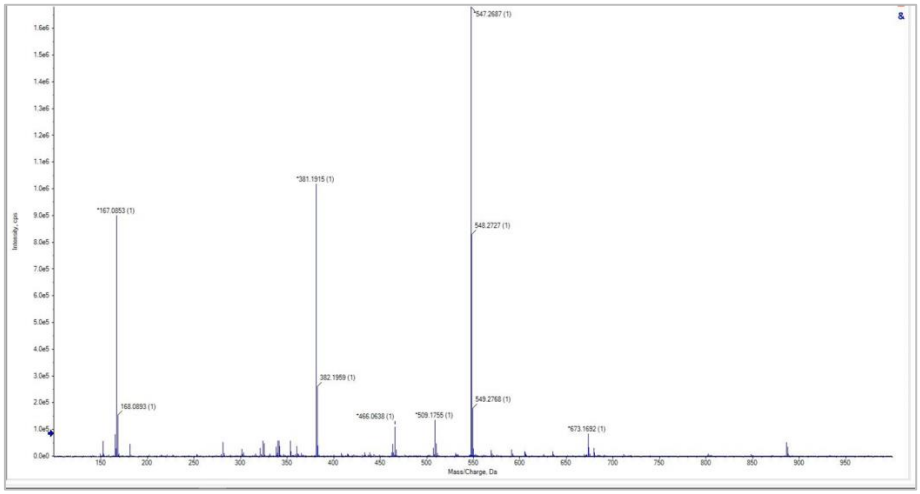

Figure 8.97. ESI-MS spectrum of **AV-10**

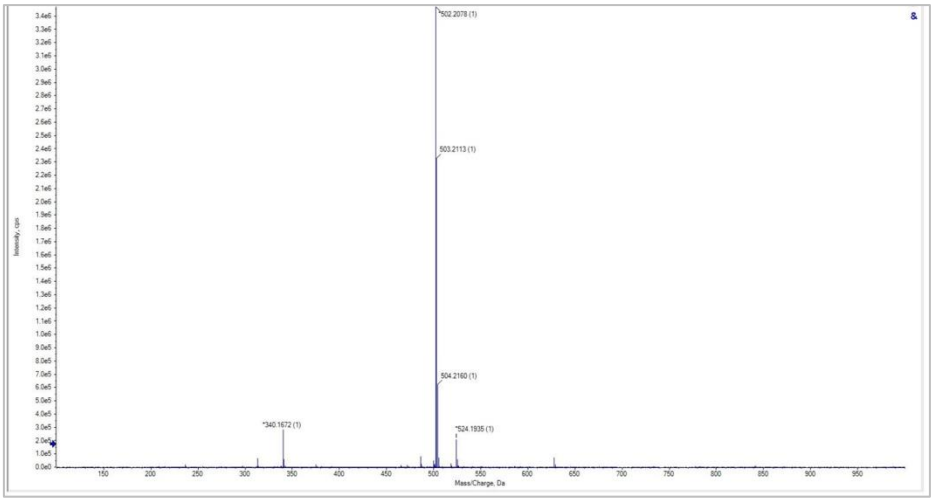

Figure 8.98. ESI-MS spectrum of **AV-12**

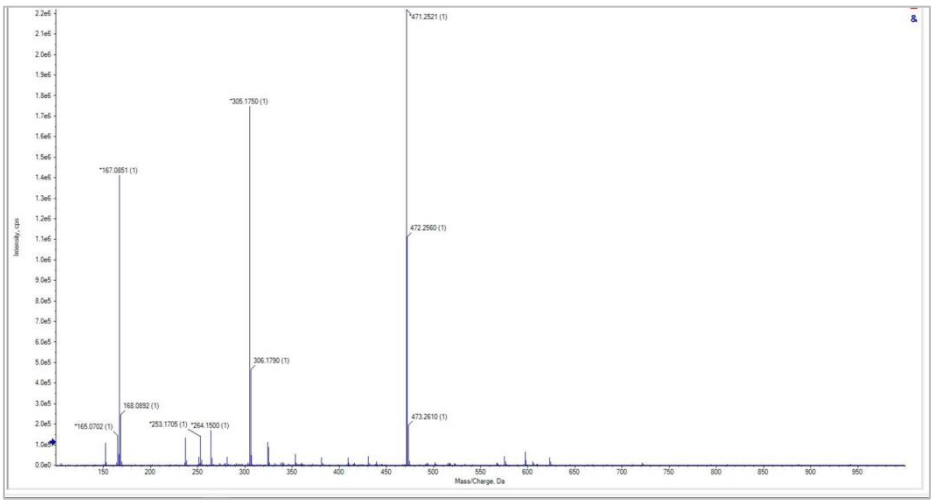

Figure 8.99. ESI-MS spectrum of **AV-13**

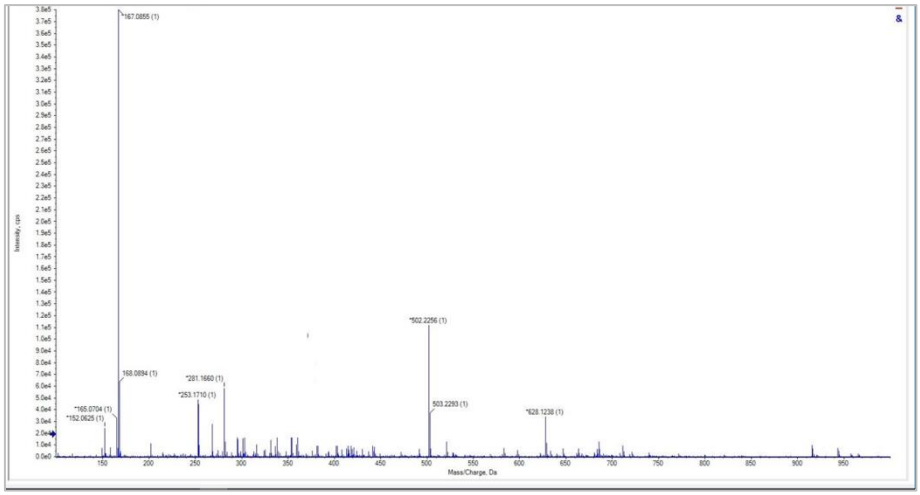

Figure 8.100. ESI-MS spectrum of **AV-16**

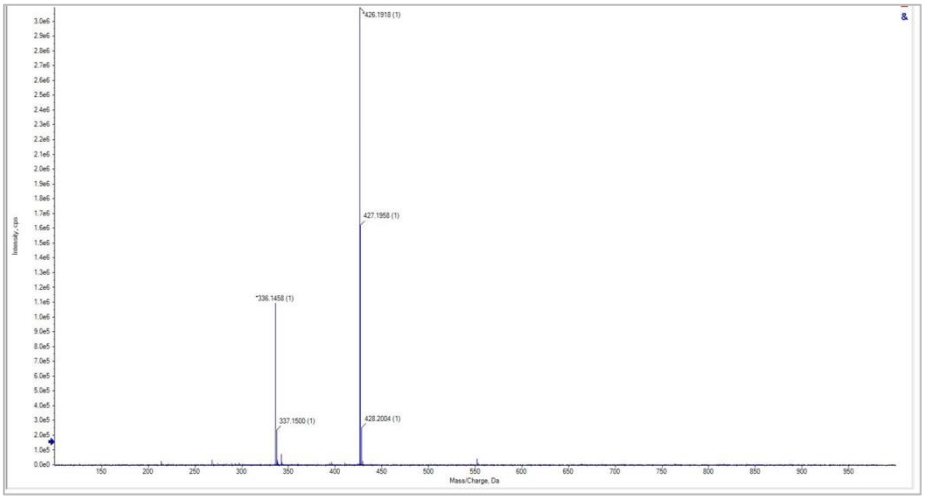

Figure 8.101. ESI-MS spectrum of **AV-17**

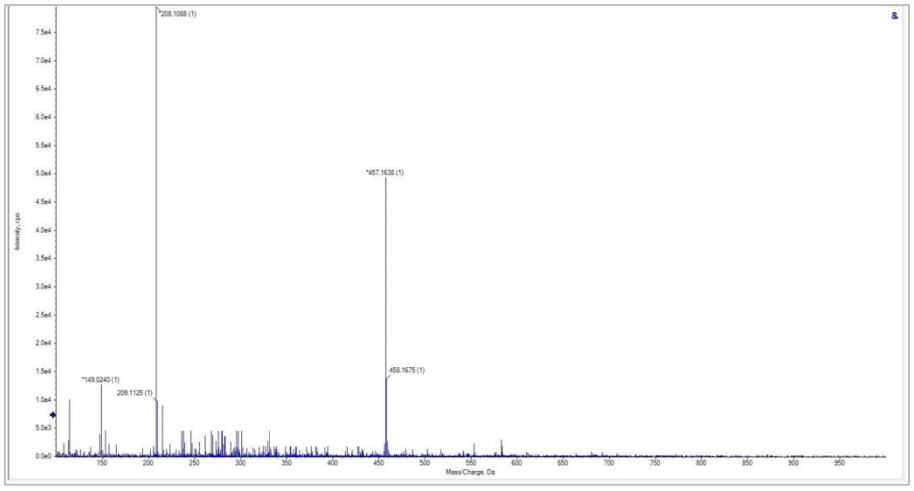

Figure 8.102. ESI-MS spectrum of **AV-18**

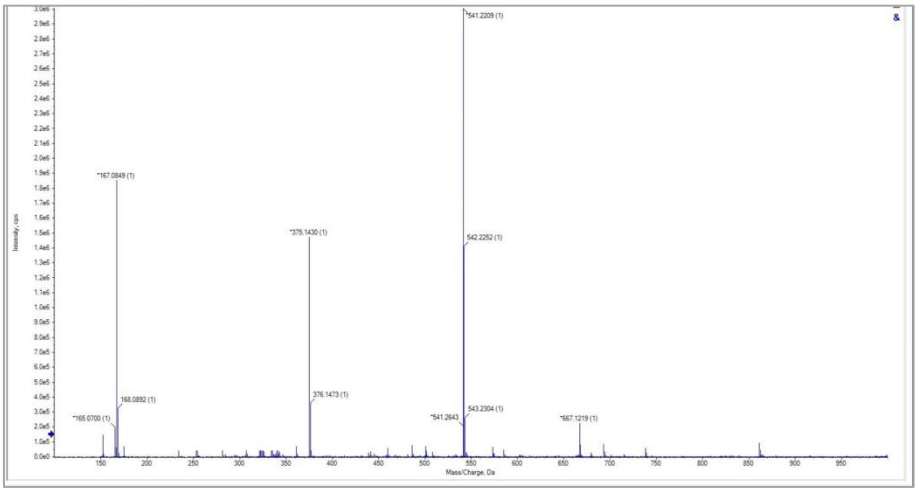

Figure 8.103. ESI-MS spectrum of **AV-19**

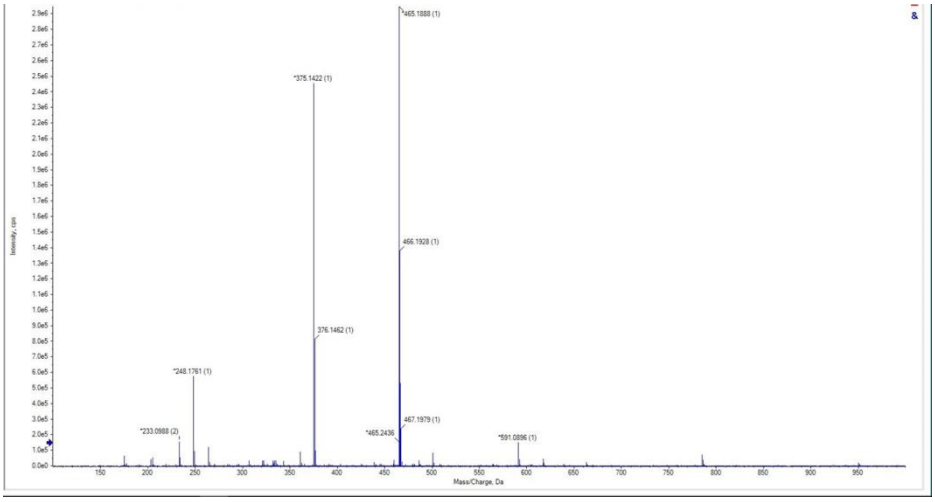

Figure 8.104. ESI-MS spectrum of **AV-20**

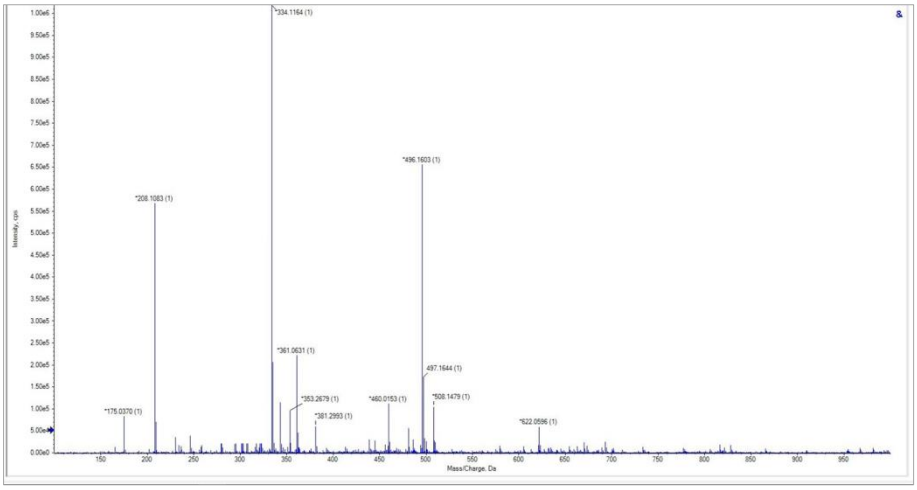

Figure 8.105. ESI-MS spectrum of **AV-21**

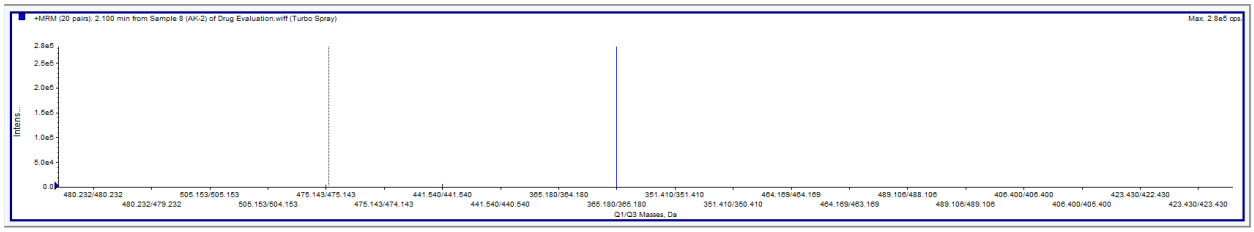

Figure 8.106. LC-MS/MS spectrum of compound **AK-2**.

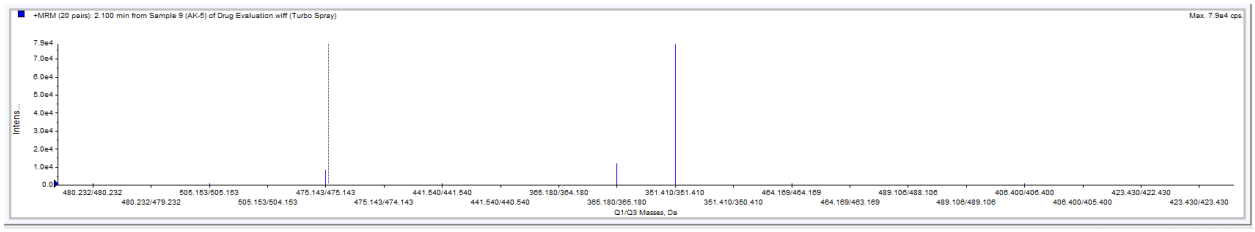

Figure 8.107. LC-MS/MS spectrum of compound **AK-5**.

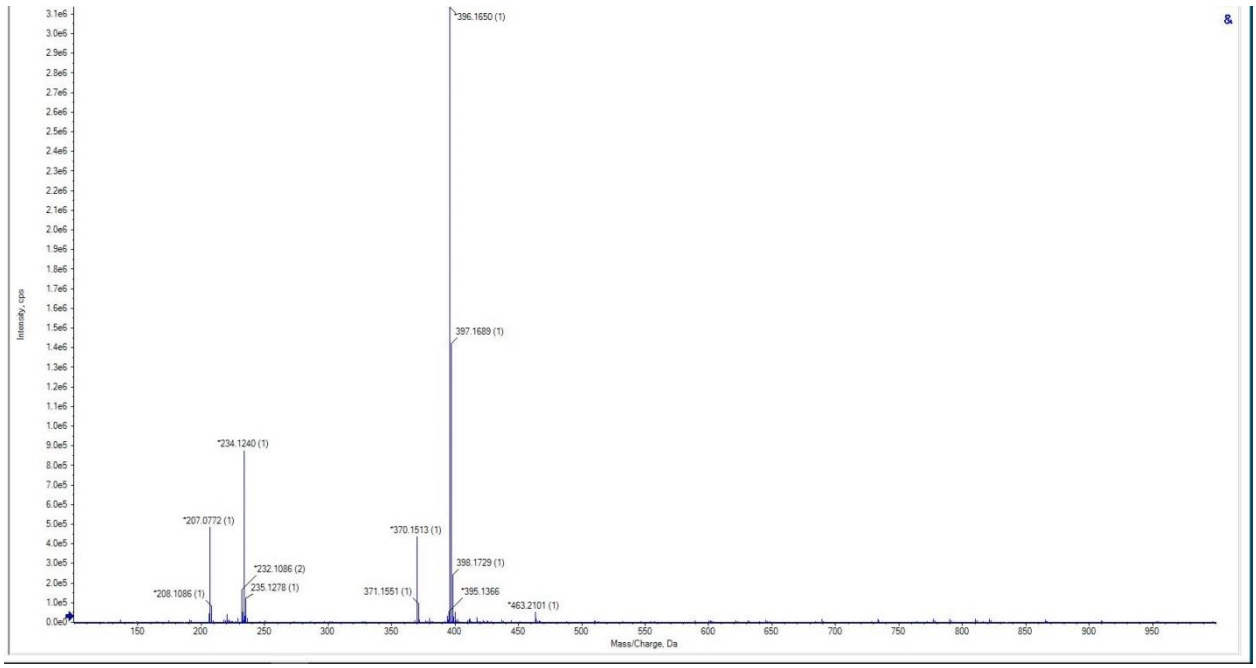

Figure 8.108. LC-MS spectrum of compound **AK-3**.

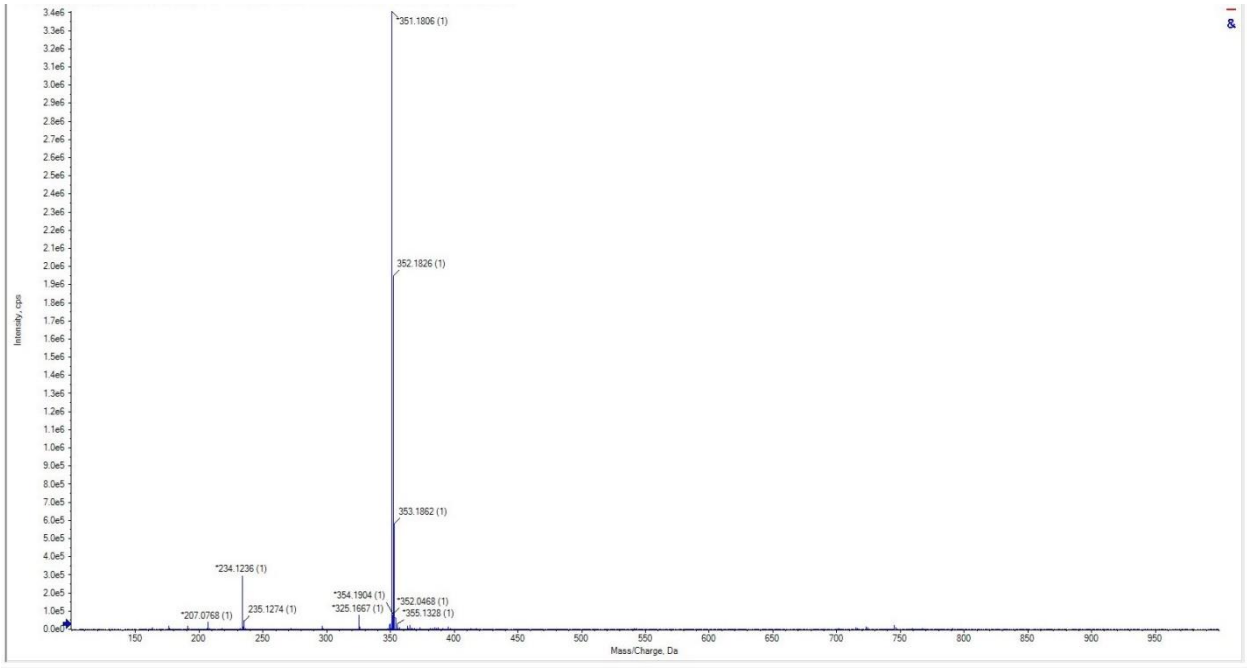

Figure 8.109. LC-MS spectrum of compound **AK-4**.

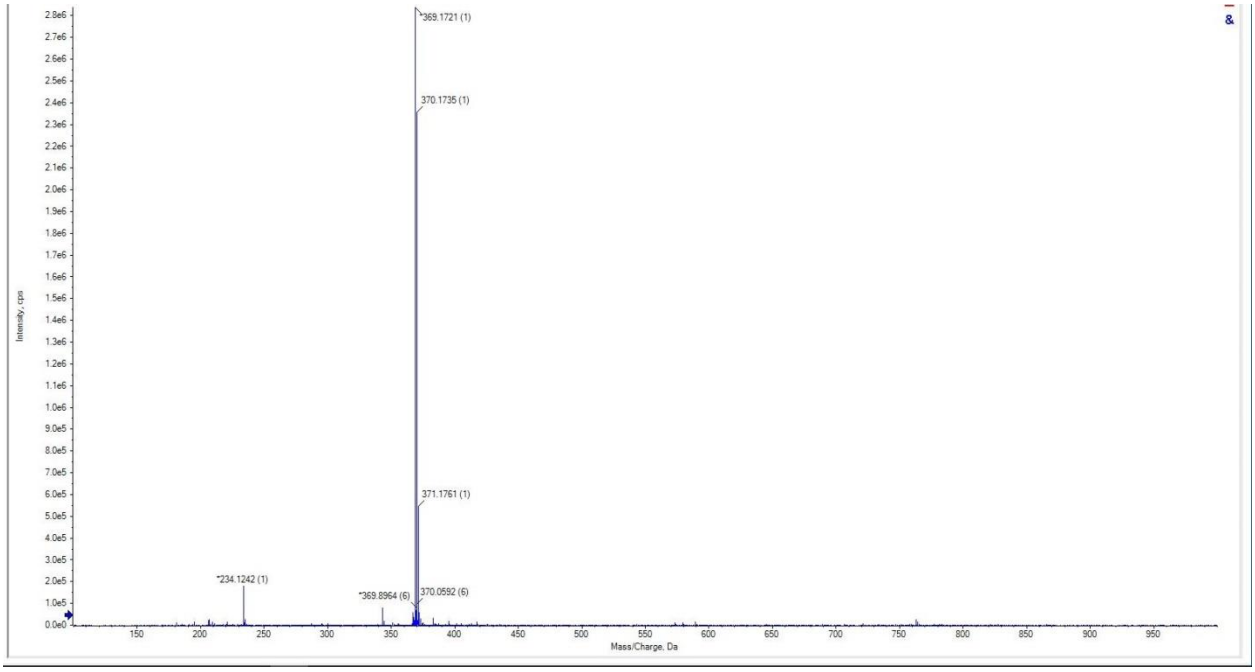

Figure 8.110. LC-MS spectrum of compound **AK-7**.

8.3. HPLC chromatogram of the representative compounds

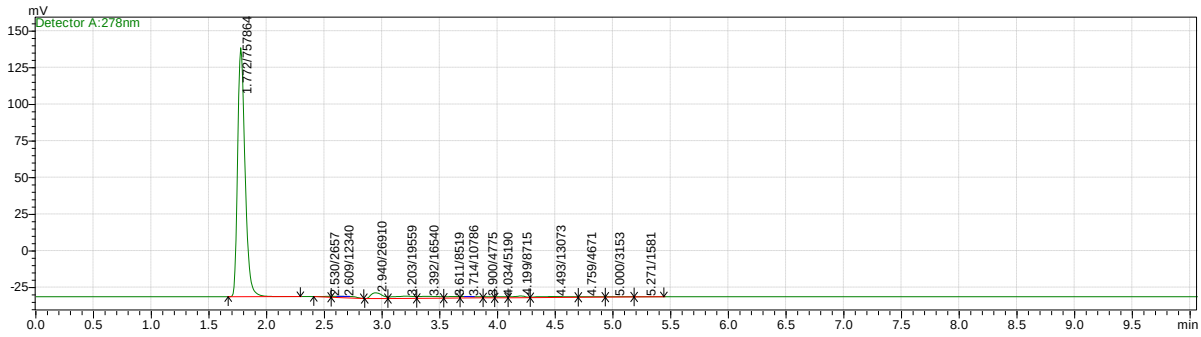

Figure 8.111. HPLC chromatogram of compound **AV-1**

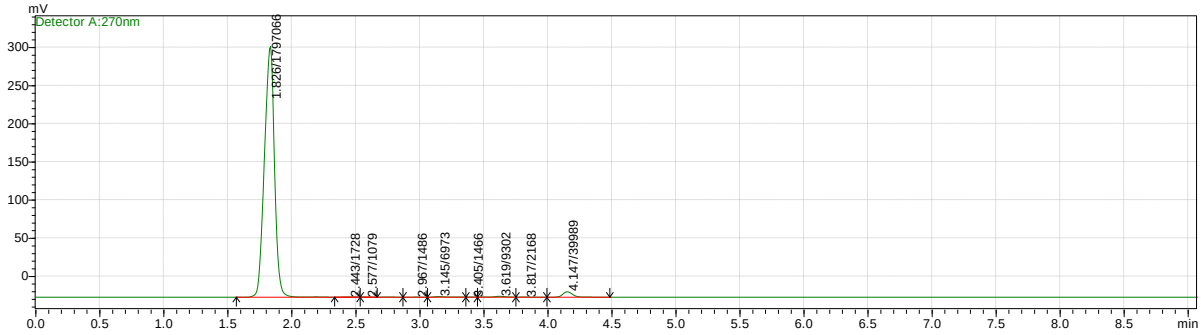

Figure 8.112. HPLC chromatogram of compound **AV-2**

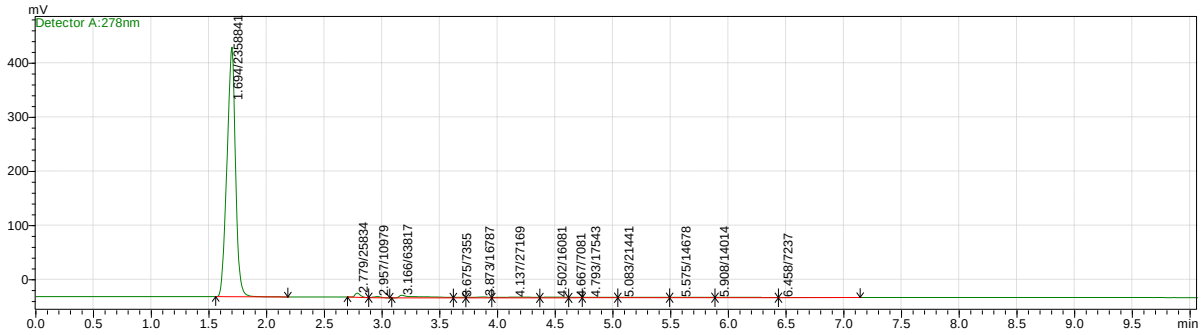

Figure 8.113. HPLC chromatogram of compound **AV-3**

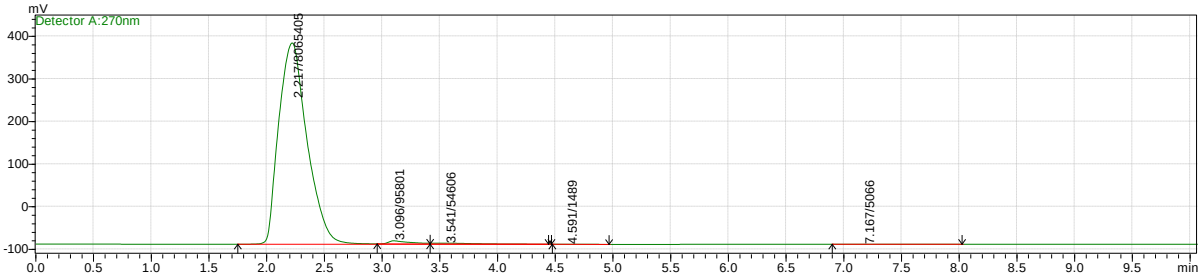

Figure 8.114. HPLC chromatogram of compound **AV-4**

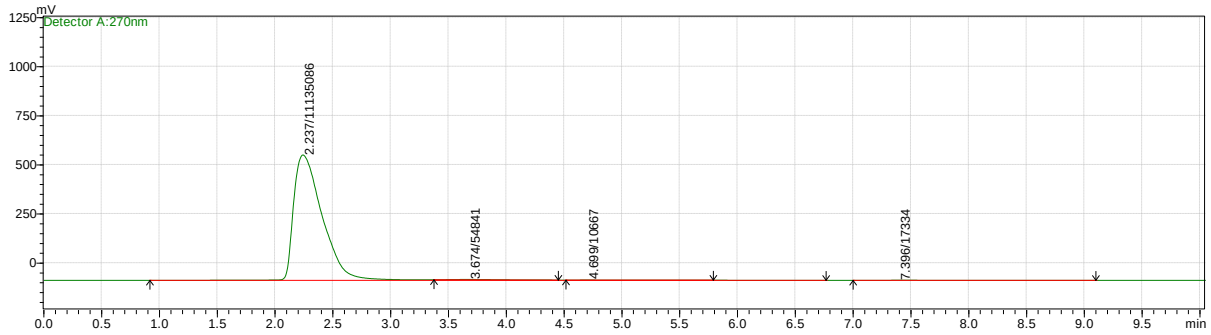

Figure 8.115. HPLC chromatogram of compound **AV-5**

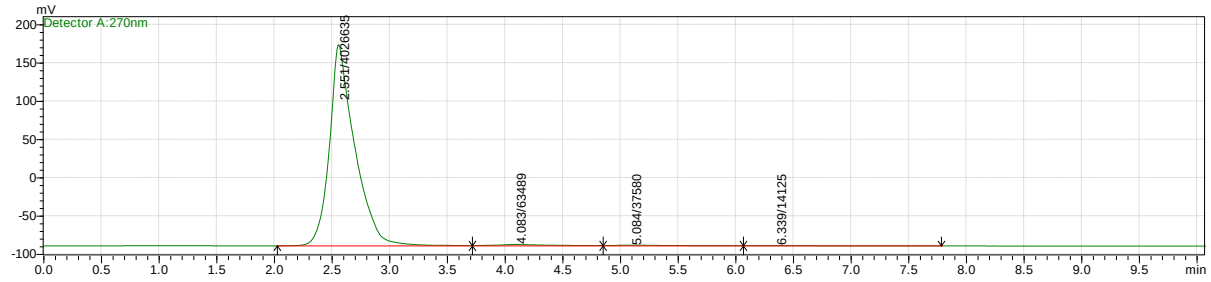

Figure 8.116. HPLC chromatogram of compound **AV-6**

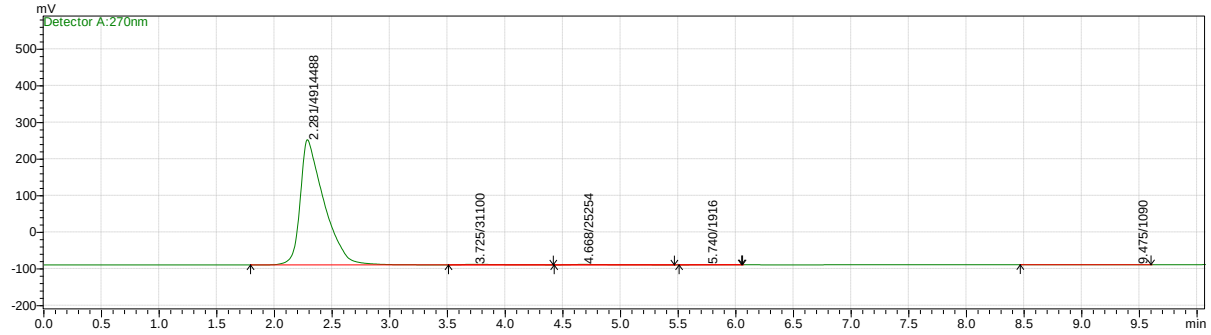

Figure 8.117. HPLC chromatogram of compound **AV-7**

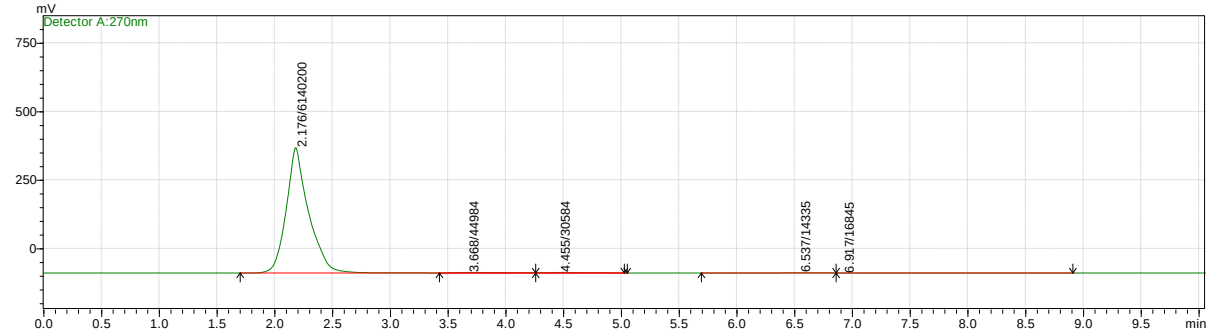

Figure 8.118. HPLC chromatogram of compound **AV-8**

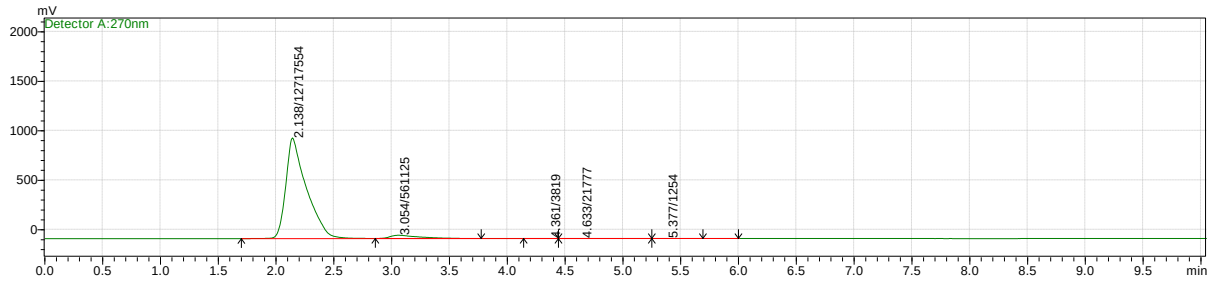

Figure 8.119. HPLC chromatogram of compound **AV-9**

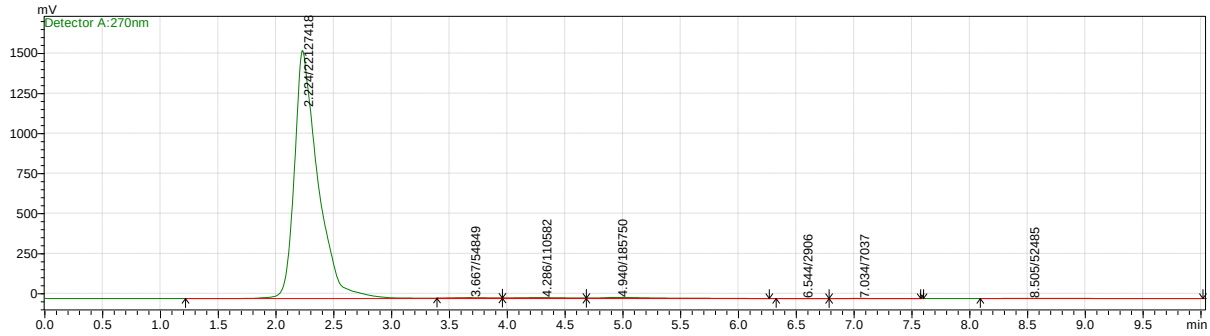

Figure 8.120. HPLC chromatogram of compound **AV-10**

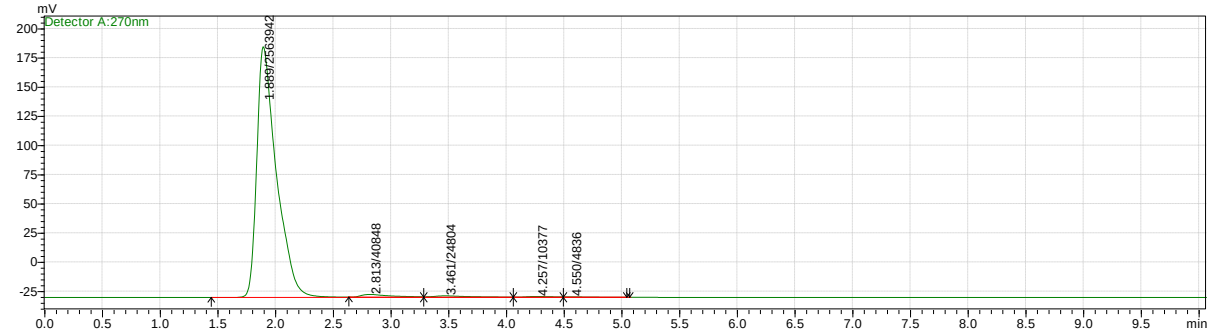

Figure 8.121. HPLC chromatogram of compound **AV-11**

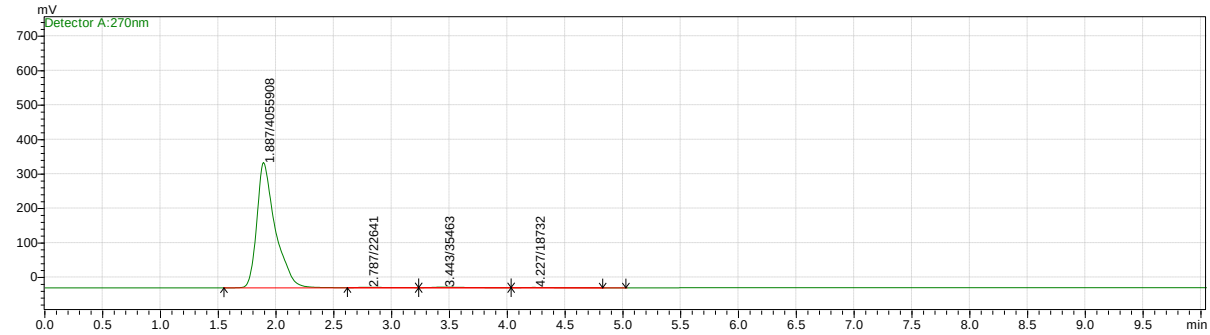

Figure 8.122. HPLC chromatogram of compound **AV-12**

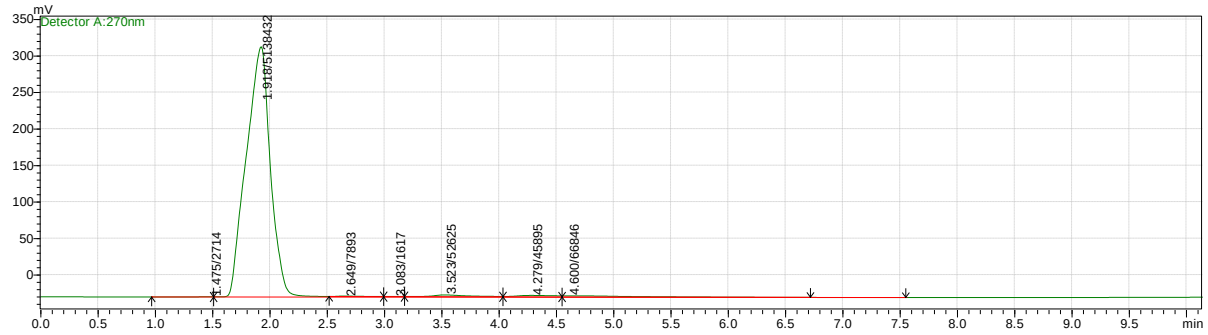

Figure 8.123. HPLC chromatogram of compound **AV-13**

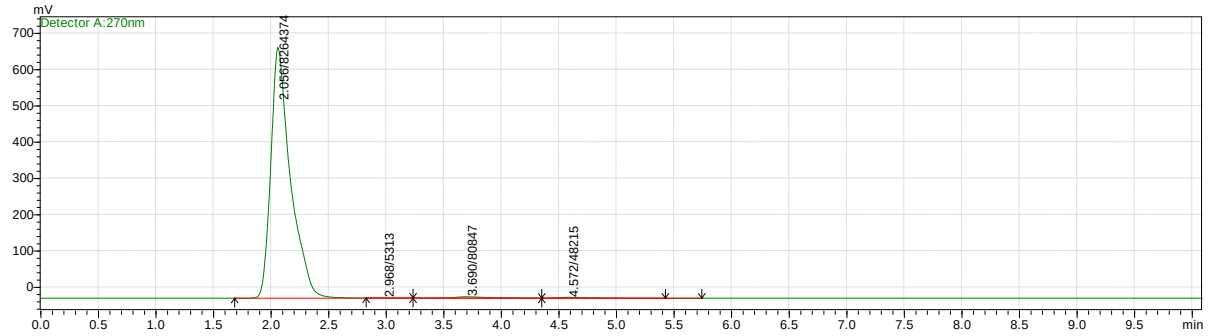

Figure 8.124. HPLC chromatogram of compound **AV-14**

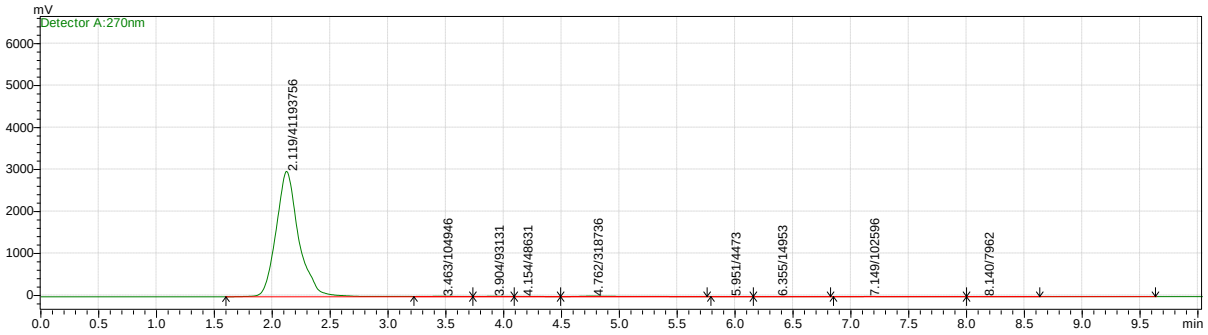

Figure 8.125. HPLC chromatogram of compound **AV-15**

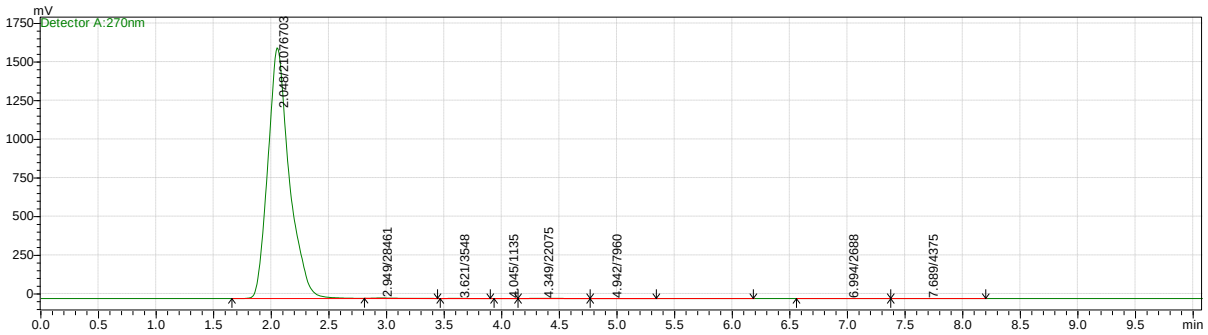

Figure 8.126. HPLC chromatogram of compound **AV-16**

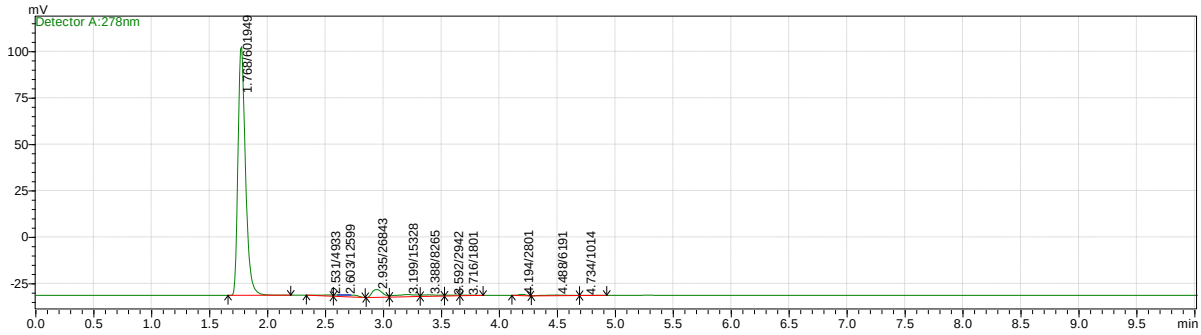

Figure 8.127. HPLC chromatogram of compound **AV-17**

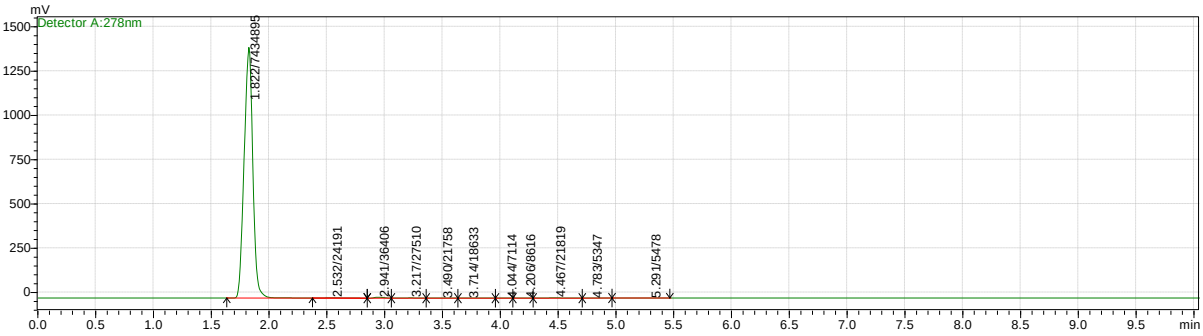

Figure 8.128. HPLC chromatogram of compound **AV-18**

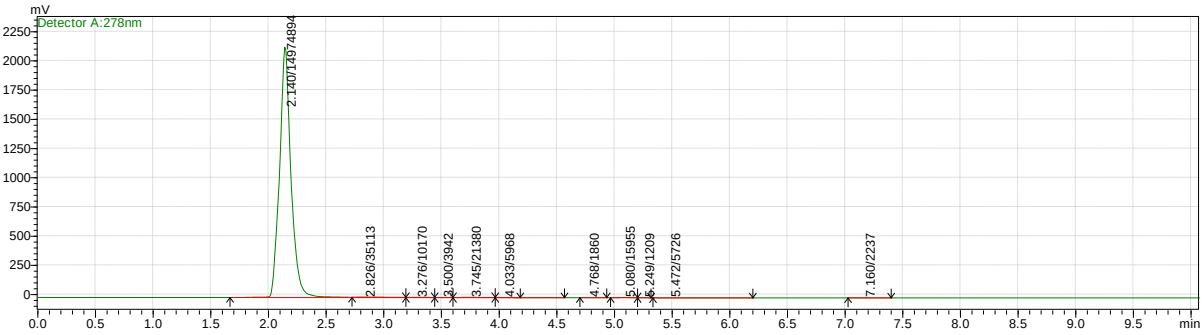

Figure 8.129. HPLC chromatogram of compound **AV-19**

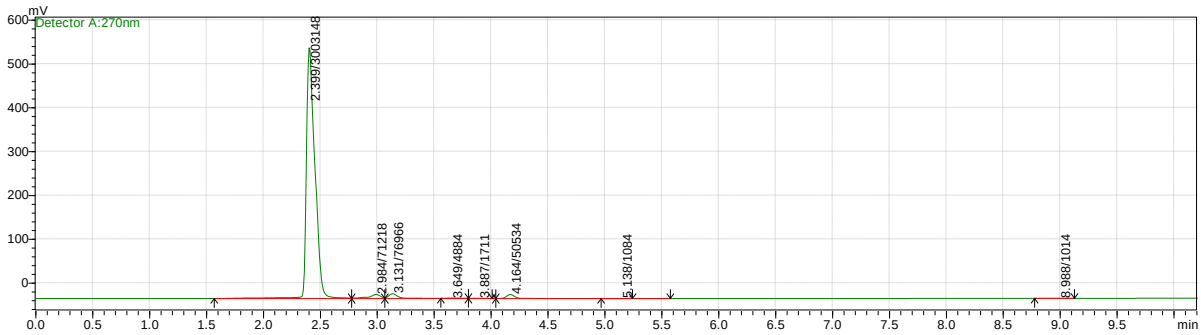

Figure 8.130. HPLC chromatogram of compound **AV-20**

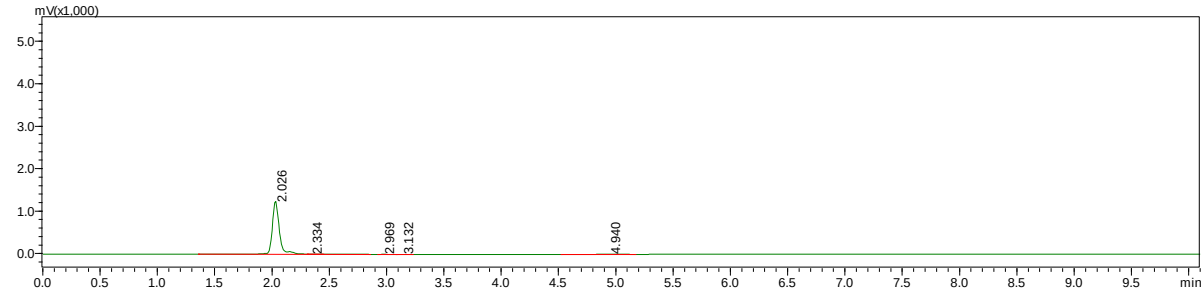

Figure 8.131. HPLC chromatogram of compound **AK-1**.

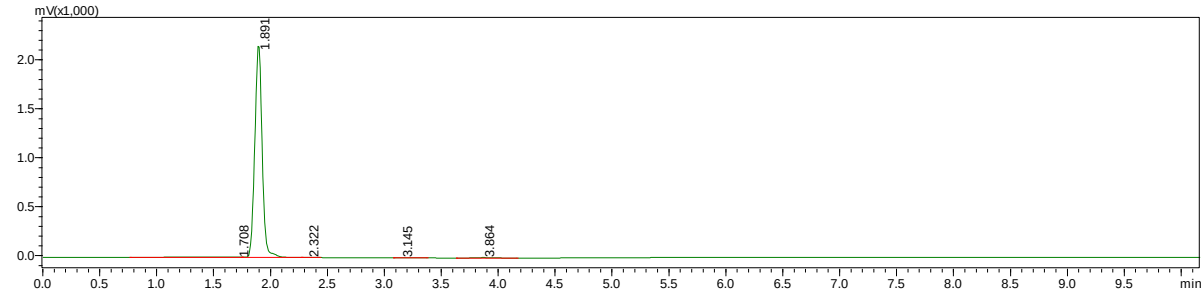

Figure 8.132. HPLC chromatogram of compound **AK-2**.

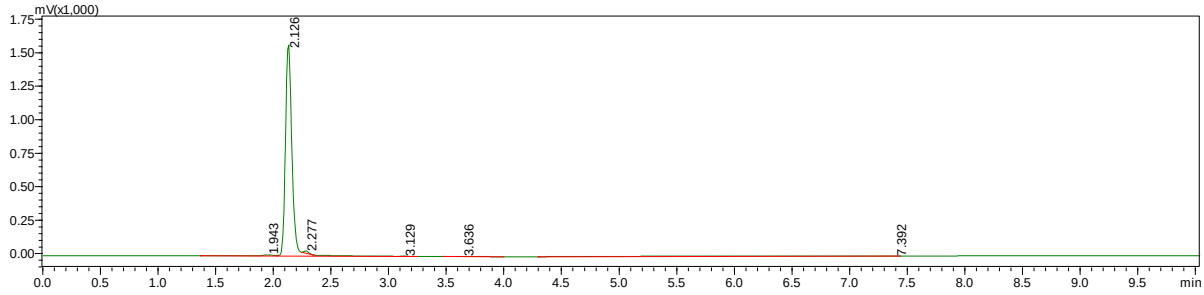

Figure 8.133. HPLC chromatogram of compound **AK-3**.

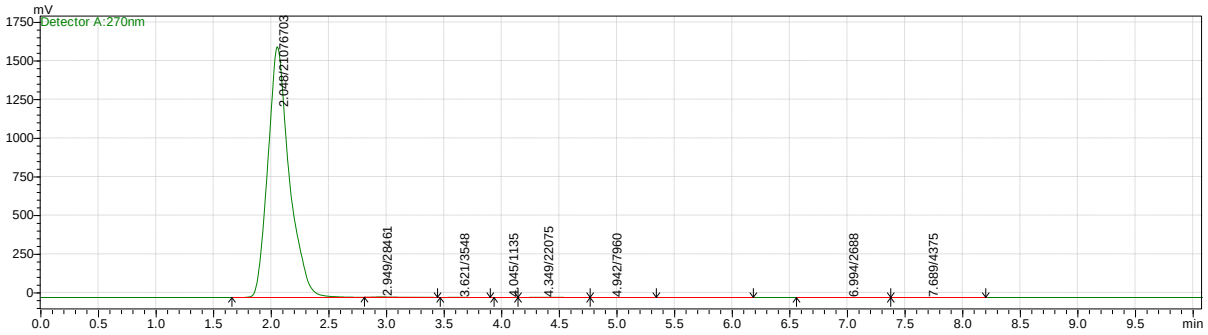

Figure 8.134. HPLC chromatogram of compound **AK-4**.

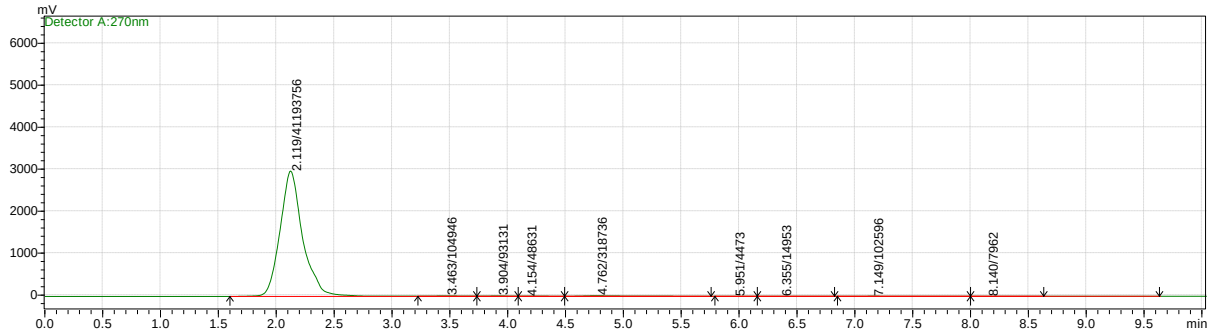

Figure 8.135. HPLC chromatogram of compound **AK-5**.

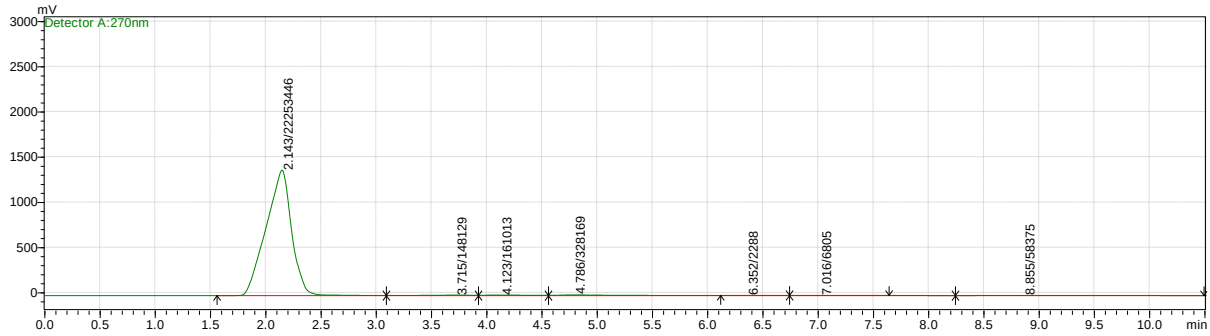

Figure 8.136. HPLC chromatogram of compound **AK-6**.

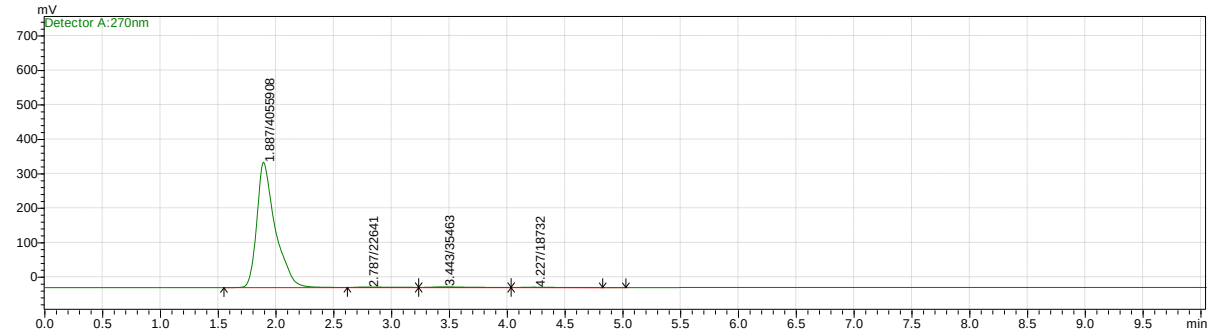

Figure 8.137. HPLC chromatogram of compound **AK-7**.

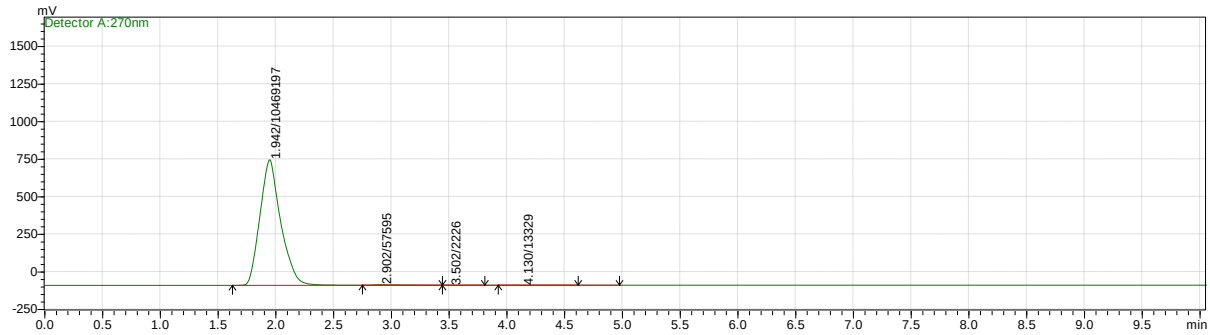

Figure 8.138. HPLC chromatogram of compound **AK-8**.

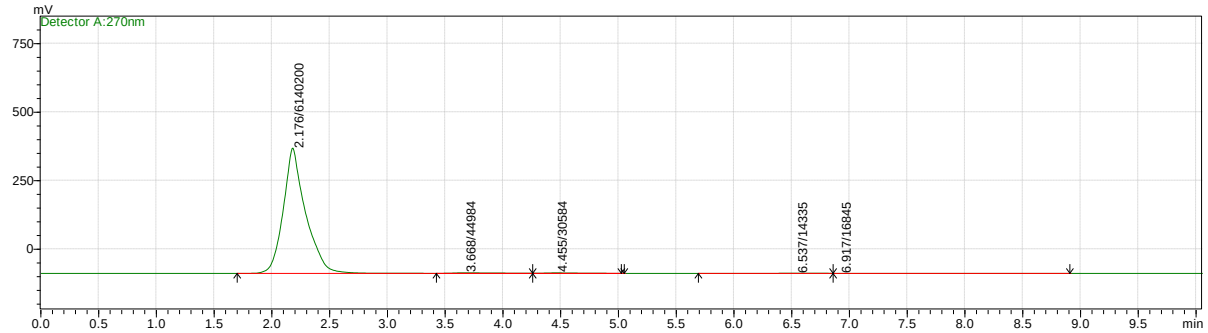

Figure 8.139. HPLC chromatogram of compound **AK-9**.

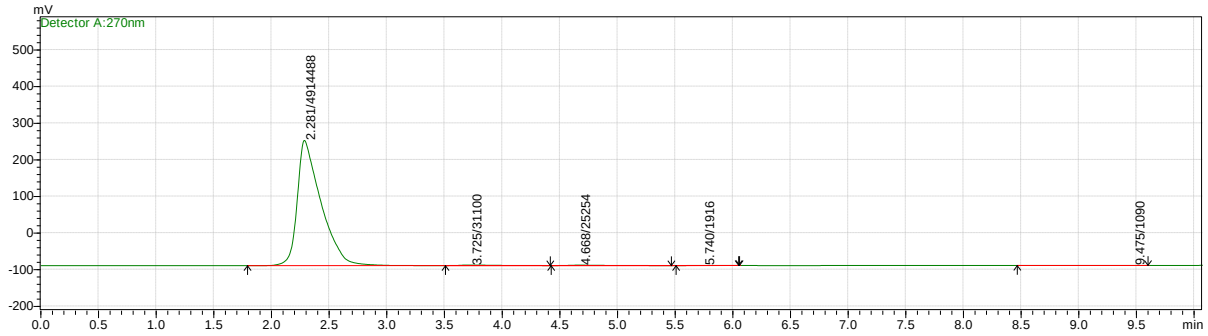

Figure 8.140. HPLC chromatogram of compound **AK-10**.

8.4. Alpha-ATR spectra of the representative compounds

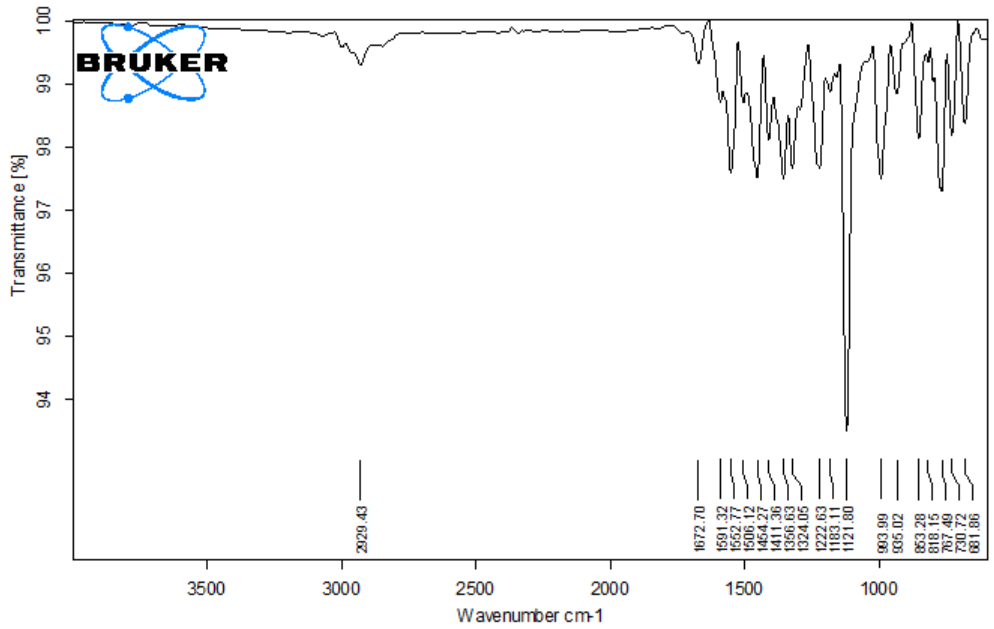

Figure 8.141. Alpha-ATR spectra of **19d**

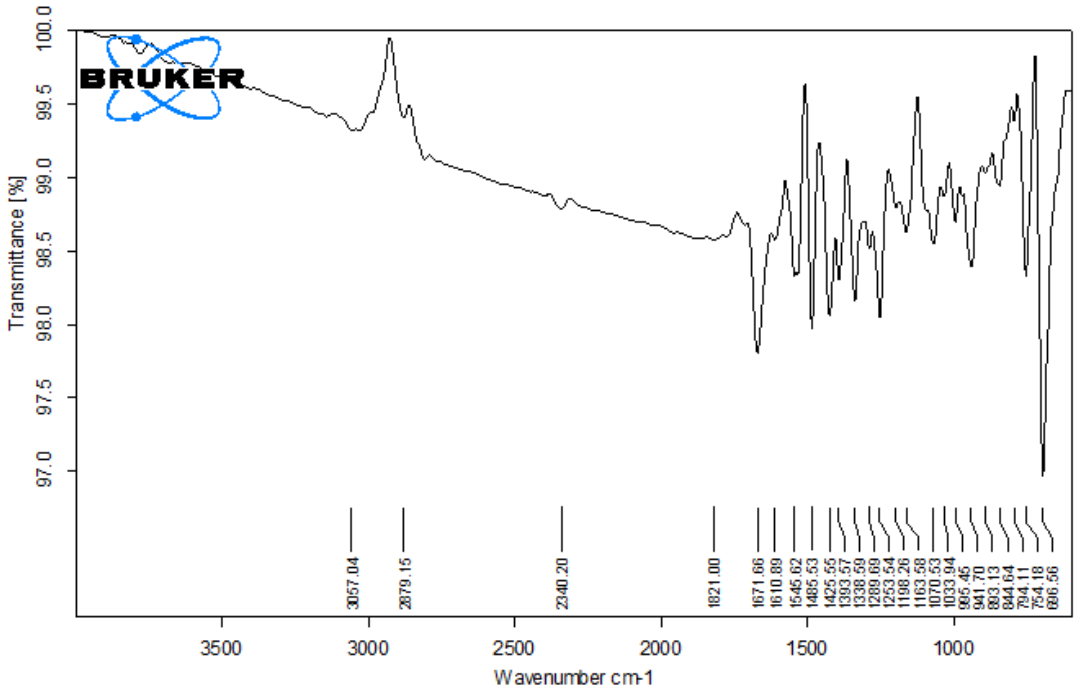

Figure 8.142. Alpha-ATR spectra of **AV-1**

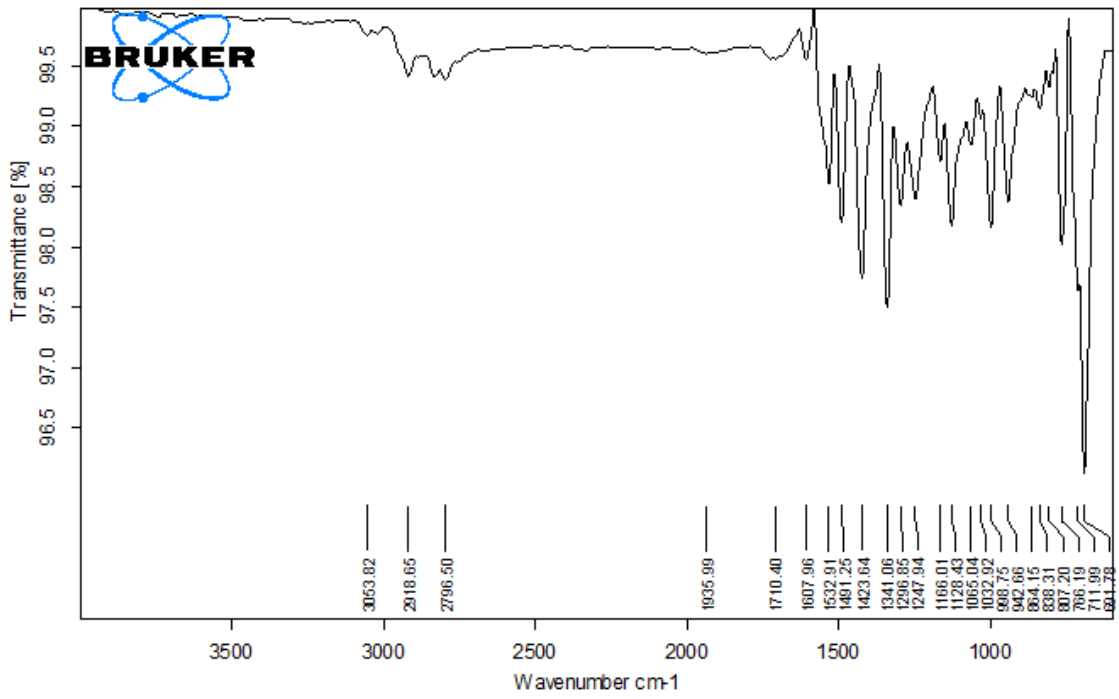

Figure 8.143. Alpha-ATR spectra of **AV-2**

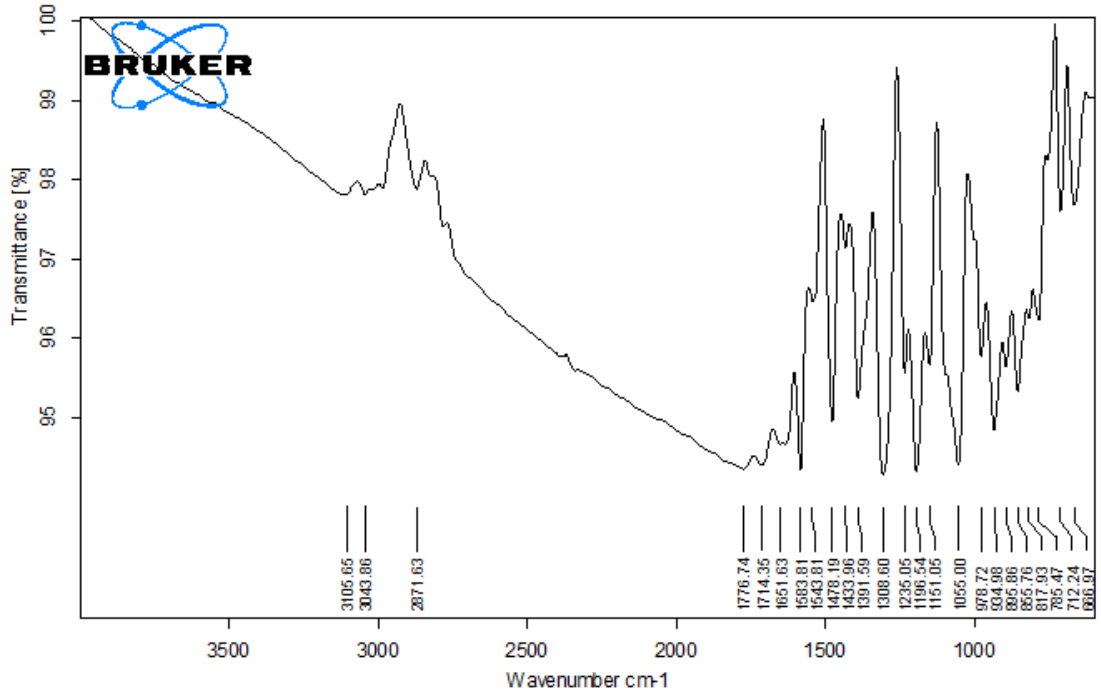

Figure 8.144. Alpha-ATR spectra of **AV-3**

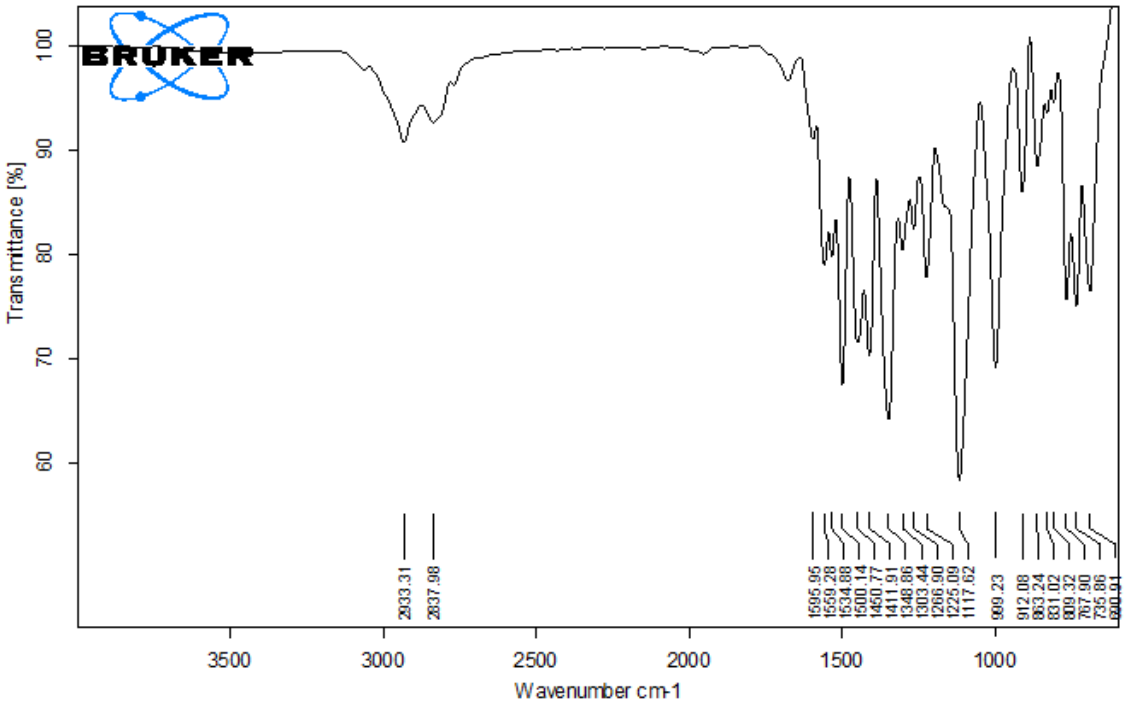

Figure 8.145. Alpha-ATR spectra of **AV-11**

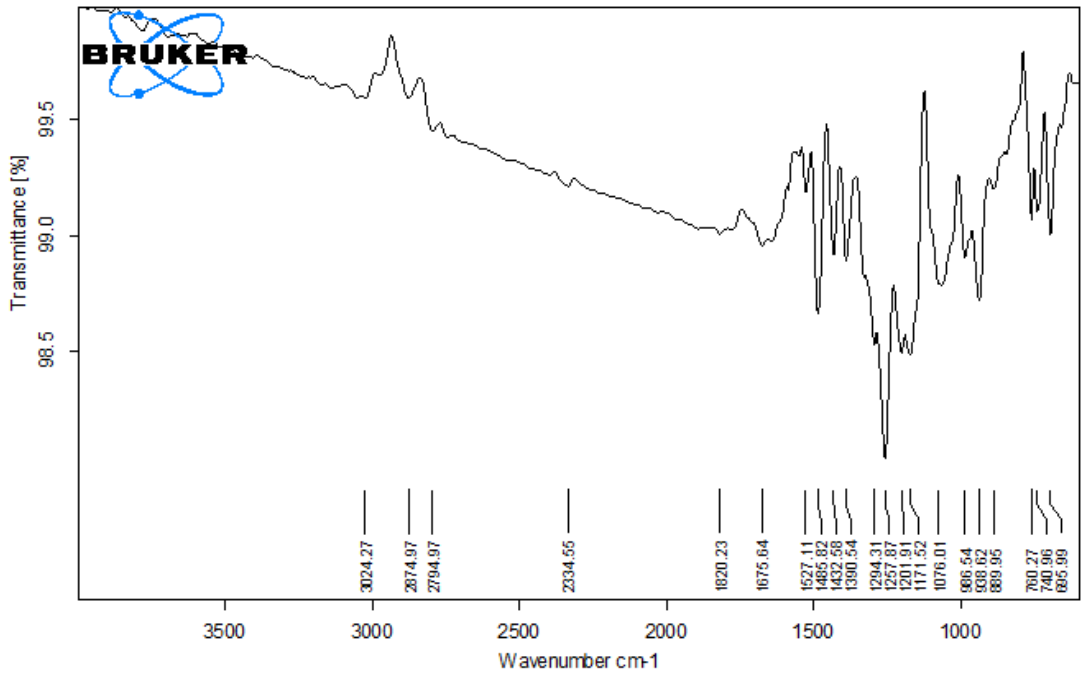

Figure 8.146. Alpha-ATR spectra of **AV-13**

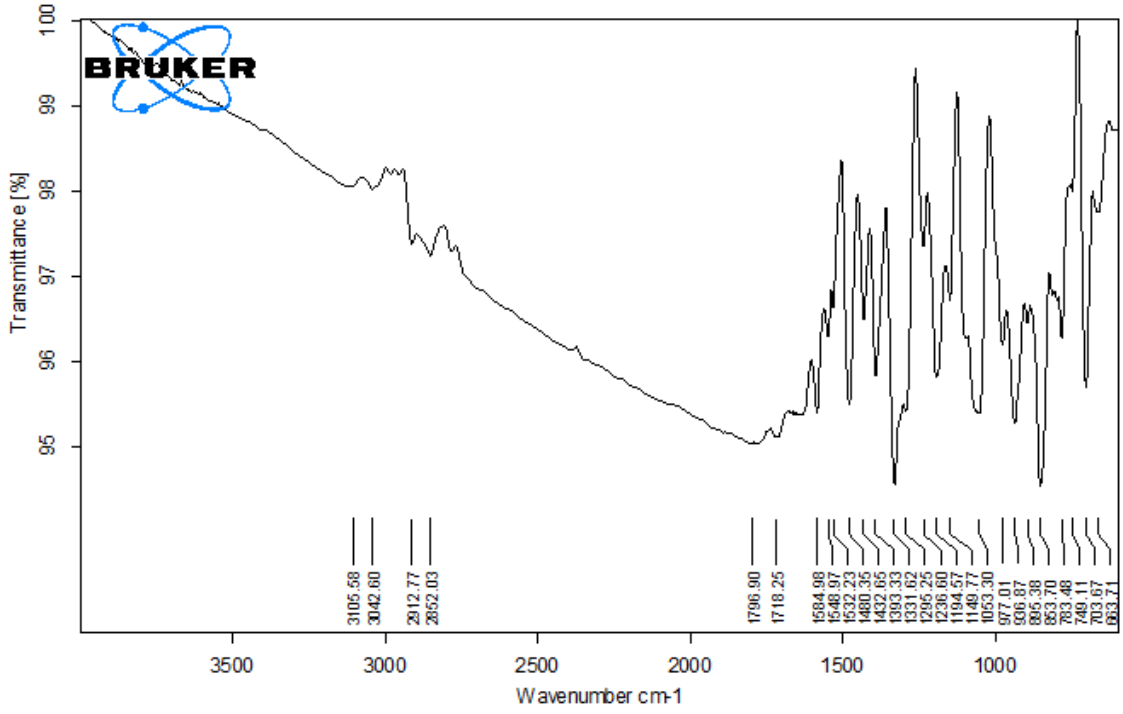

Figure 8.147. Alpha-ATR spectra of **AV-16**

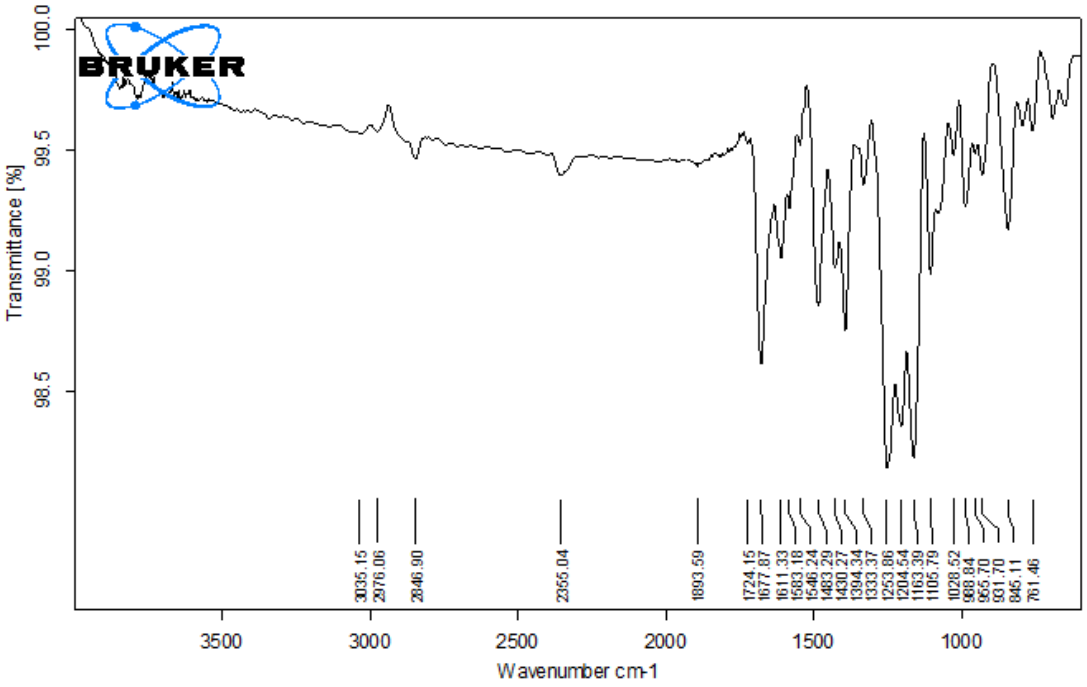

Figure 8.148. Alpha-ATR spectra of **AV-21**

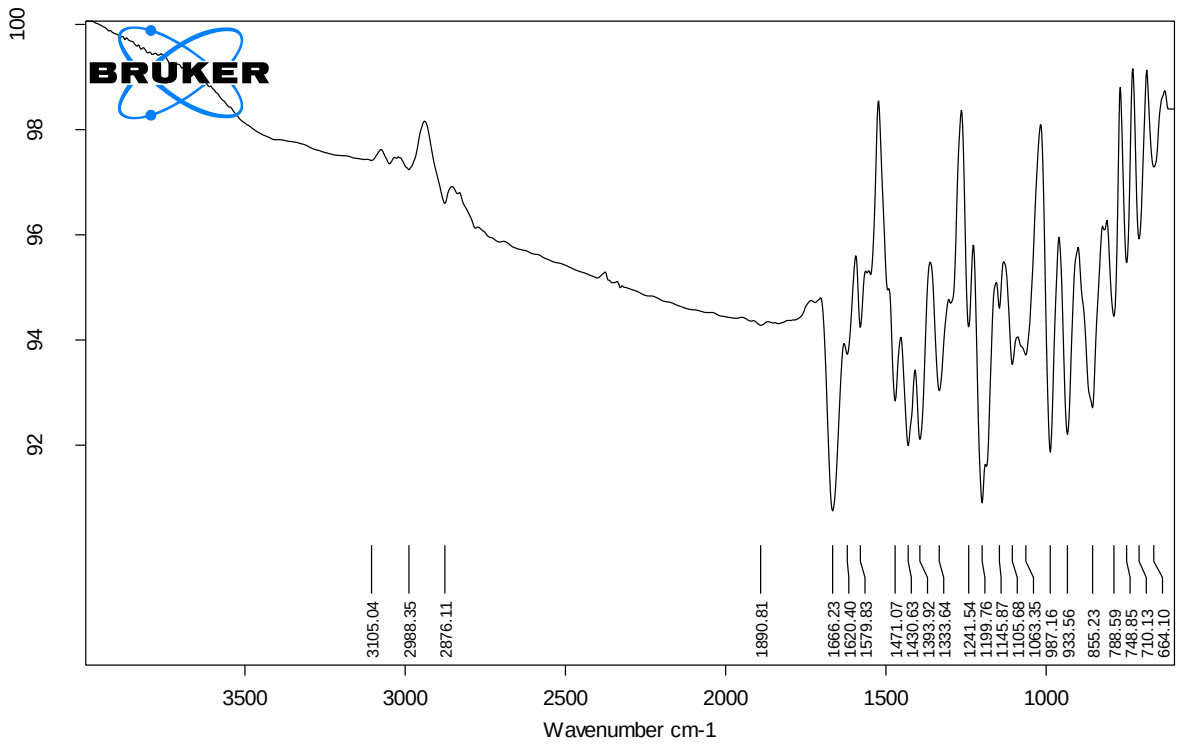

Figure 8.149. α-ATR spectra of **AK-2**.

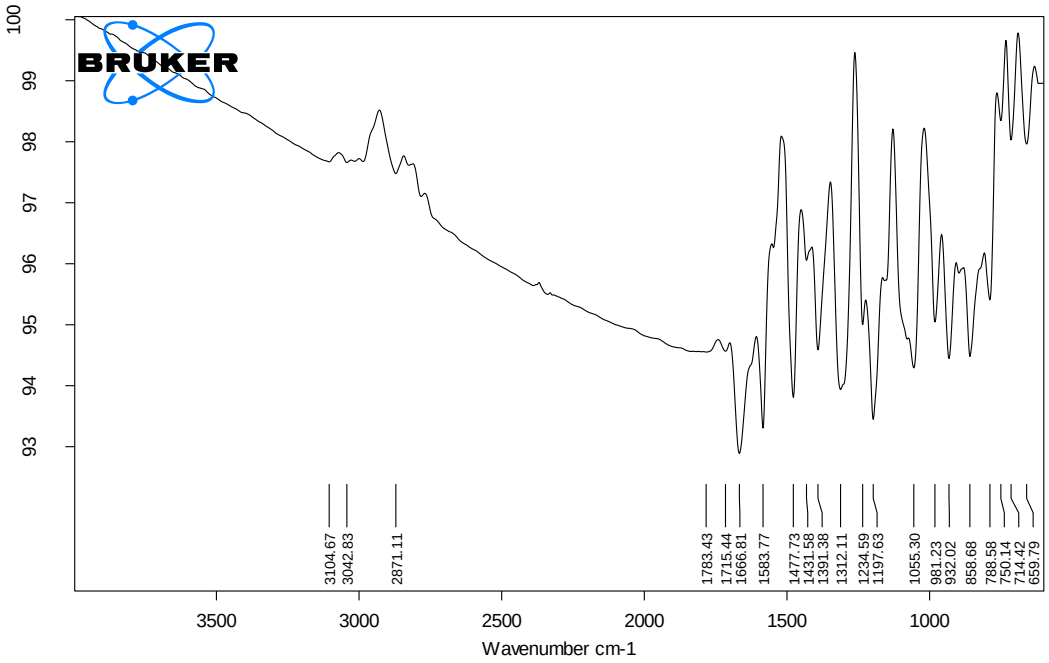

Figure 8.150. α-ATR spectra of **AK-3**.

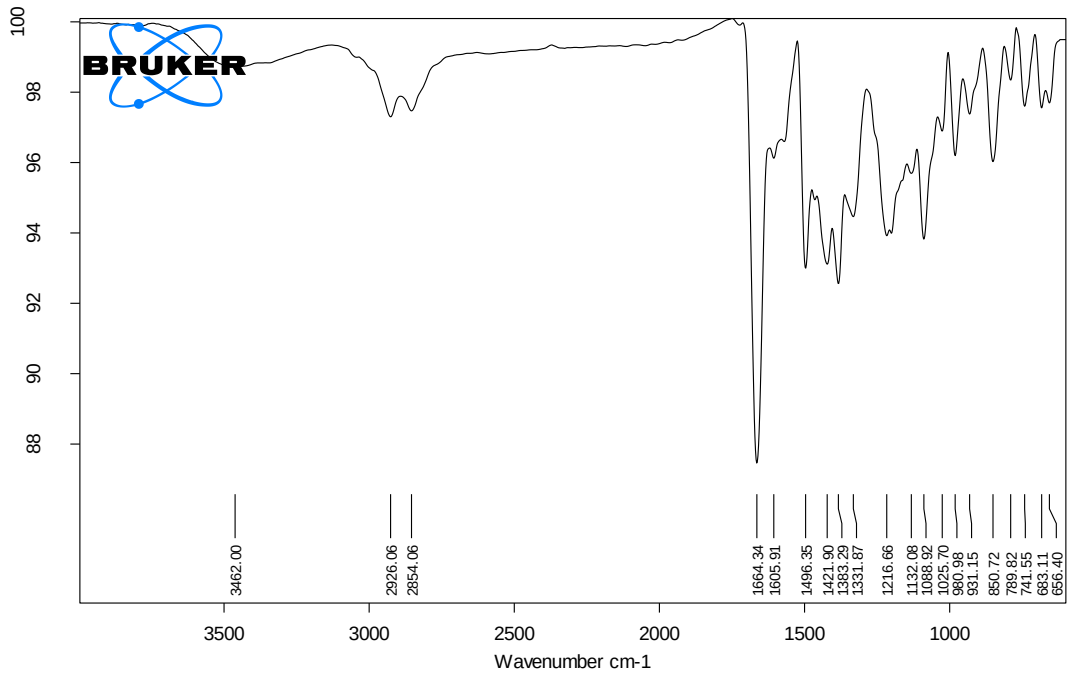

Figure 8.151. α-ATR spectra of **AK-4**.

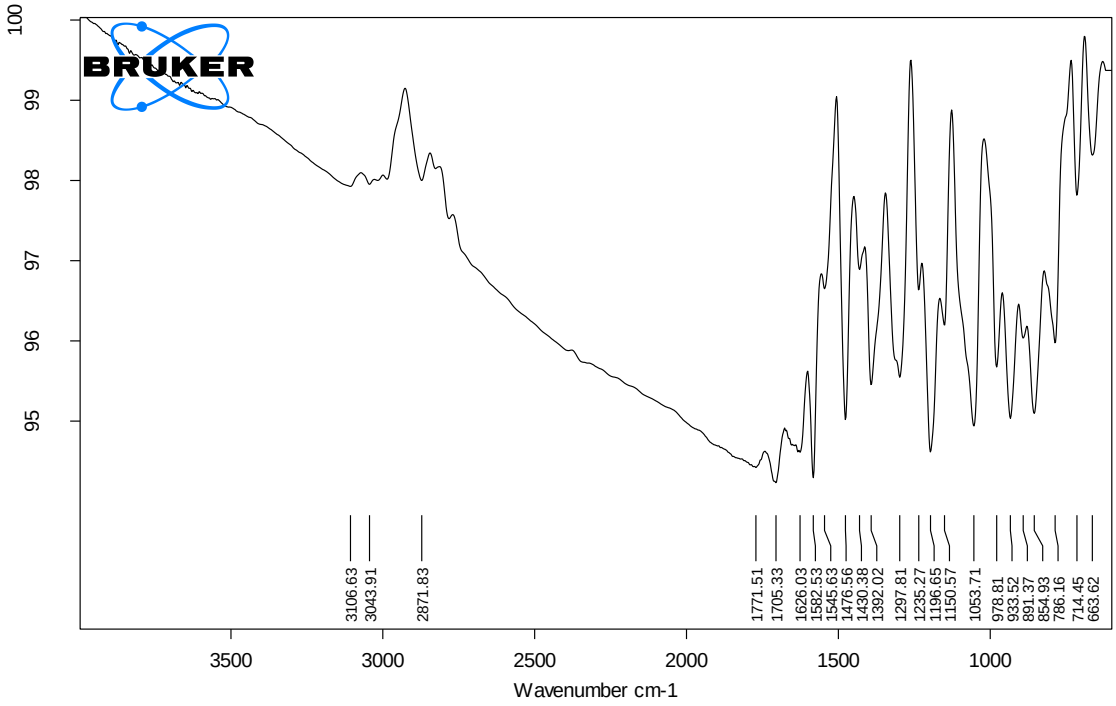

Figure 8.152. α-ATR spectra of **AK-5**.

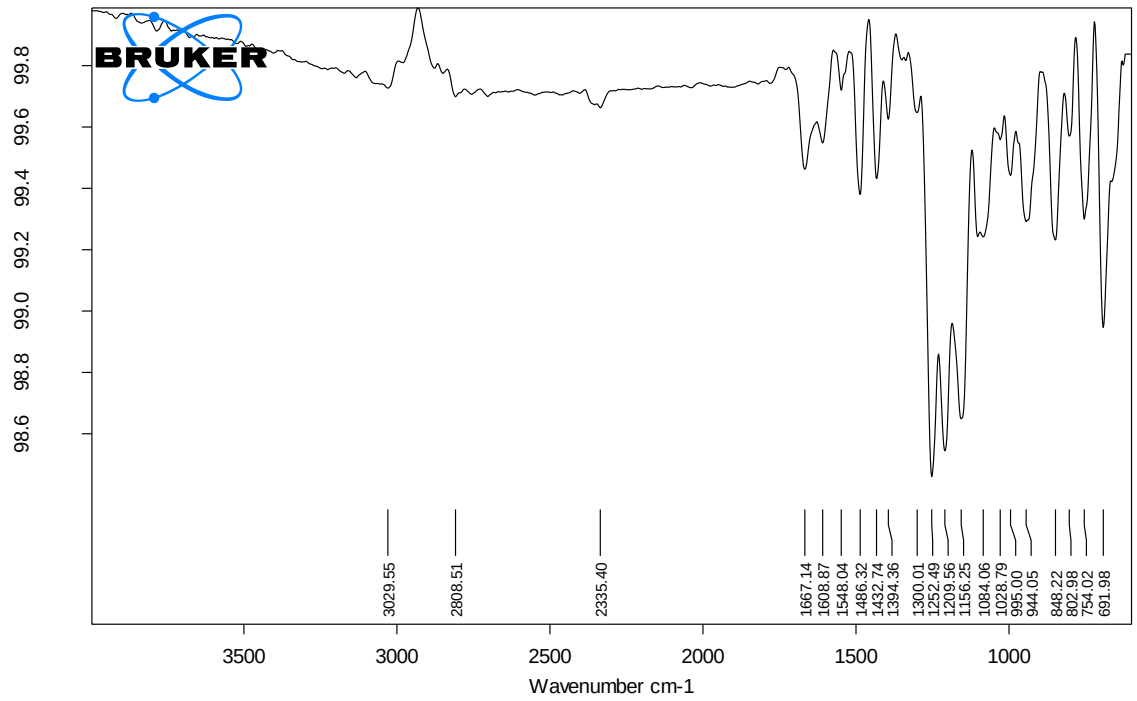

Figure 8.153. α-ATR spectra of **AK-6**.

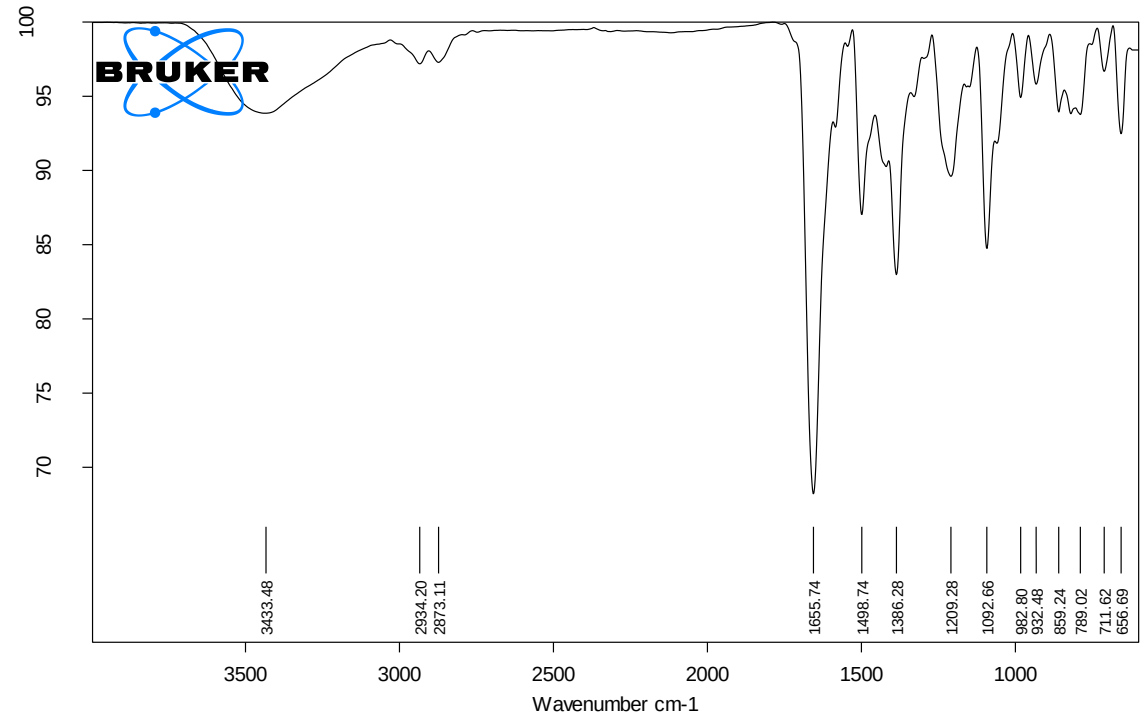

Figure 8.154. α-ATR spectra of **AK-7**.

(List of Publications)

PUBLICATION FROM Ph.D. DISSERTATION

- **Verma A**, Waiker DK, Singh N, Singh A, Saraf P, Bhardwaj B, Kumar P, Krishnamurthy S, Srikrishna S, Shrivastava SK. Lead optimization based design, synthesis, and pharmacological evaluation of quinazoline derivatives as multi-targeting agents for Alzheimer's disease treatment. European Journal of Medicinal Chemistry. 2024 Apr 27:116450. **(I.F. 6.7)**
- **Verma A**, Waiker DK, Singh N, Roy A, Singh N, Saraf P, Bhardwaj B, Krishnamurthy S, Trigun SK, Shrivastava SK. Design, Synthesis, and Biological Investigation of Quinazoline Derivatives as Multitargeting Therapeutics in Alzheimer's Disease Therapy. ACS Chemical Neuroscience. 2024 Feb 8. **(I.F. 5.0)**
- **Verma A**, Waiker DK, Bhardwaj B, Saraf P, Shrivastava SK. The molecular mechanism, targets, and novel molecules in the treatment of Alzheimer's disease. Bioorganic Chemistry. 2022 Feb 1;119:105562. **(I.F. 5.1)**

OTHER PUBLICATIONS

- Waiker DK, **Verma A**, Gajendra TA, Roy A, Kumar P, Trigun SK, Srikrishna S, Krishnamurthy S, Davisson VJ, Shrivastava SK. Design, Synthesis, and Biological Evaluation of Some 2-(3-oxo-5, 6-diphenyl-1, 2, 4-triazin-2 (3H)-yl)-N-phenylacetamide Hybrids as MTDLs for Alzheimer's Disease Therapy. European Journal of Medicinal Chemistry. 2024 Apr 16:116409. **(I.F. 6.7)**
- Singh A, **Verma A**, Bhardwaj B, Saraf P, Kumar H, Jain N, Waiker DK, Gajendra TA, Krishnamurthy S, Shrivastava SK. Structure-Guided Design, Synthesis, and Biological Evaluation of Peripheral Anionic Site Selective and Brain Permeable

Novel Oxadiazole-Piperazine Conjugates against Alzheimer's Disease with Antioxidant Potential. ACS Omega. 2024 Apr 11. **(I.F. 4.1)**

- Kiran PV, Waiker DK, **Verma A**, Saraf P, Bhardwaj B, Kumar H, Singh A, Kumar P, Singh N, Srikrishna S, Trigun SK. Design and development of benzyl piperazine linked 5-phenyl-1, 2, 4-triazole-3-thione conjugates as potential agents to combat Alzheimer's disease. Bioorganic Chemistry. 2023 Oct 1;139:106749. **(I.F. 5.1)**
- Waiker DK, **Verma A**, Akhilesh, Singh N, Roy A, Dilnashin H, Tiwari V, Trigun SK, Singh SP, Krishnamurthy S, Lama P. Design, Synthesis, and Biological Evaluation of Piperazine and N-Benzylpiperidine Hybrids of 5-Phenyl-1, 3, 4-oxadiazol-2-thiol as Potential Multitargeted Ligands for Alzheimer's Disease Therapy. ACS Chemical Neuroscience. 2023 May 22;14(11):2217-42. **(I.F. 5.0)**
- Waiker DK, **Verma A**, Saraf P, TA G, Krishnamurthy S, Chaurasia RN, Shrivastava SK. Development and Evaluation of Some Molecular Hybrids of N-(1-Benzylpiperidin-4-yl)-2-((5-phenyl-1, 3, 4-oxadiazol-2-yl) thio) as Multifunctional Agents to Combat Alzheimer's Disease. ACS omega. 2023 Mar 2;8(10):9394-414. **(I.F. 4.1)**
- Shrivastava SK, Sinha O, Kumar M, Waiker DK, **Verma A**, Tripathi PN, Bhardwaj B, Saraf P. Synthesis, characterization, and biological evaluation of some novel ϒ-aminobutyric acid aminotransferase (GABA-AT) inhibitors. Medicinal Chemistry Research. 2022 Sep;31(9):1594-610. **(I.F. 2.6)**
- Shrivastava SK, Nivrutti AA, Bhardwaj B, Waiker DK, **Verma A**, Tripathi PN, Tripathi M, Saraf P. Drug reposition-based design, synthesis, and biological evaluation of dual inhibitors of acetylcholinesterase and β-Secretase for treatment of Alzheimer's disease. Journal of Molecular Structure. 2022 Aug 15;1262:132979. **(I.F. 3.8)**

- Dwivedi AR, Kumar V, Prashar V, **Verma A**, Kumar N, Parkash J, Kumar V. Morpholine substituted quinazoline derivatives as anticancer agents against MCF-7, A549 and SHSY-5Y cancer cell lines and mechanistic studies. RSC Medicinal Chemistry. 2022;13(5):599-609. **(I.F. 4.1)**
- Ramrao SP, **Verma A**, Waiker DK, Tripathi PN, Shrivastava SK. Design, synthesis, and evaluation of some novel biphenyl imidazole derivatives for the treatment of Alzheimer's disease. Journal of Molecular Structure. 2021 Dec 15;1246:131152. **(I.F. 3.8)**
- Dubey D, Chaudhari L, Biharee A, **Verma A**, Kumar P, Shrivastava M. AN OVERVIEW OF IMPORTANT NATURAL PRODUCTS AND PHYTOMEDICINES USED FOR MANAGEMENT OF MELASMA. **(I.F. 8.4)**

CONFERENCE/WORKSHOP:

- Participated in a 2 days Hands on Training Program on Circular Dichroism Spectrophotometer & Photoacoustic Imaging Platform, Organized by Sophisticated Analytical and Technical Help Institute (SATHI), Banaras Hindu University, Varanasi.
- राष्ट्रीय संगोष्ठी औषद विज्ञानं की अध्यतन प्रोधोगिकी: वर्तमान और भविष्य, विज्ञान और इंजीनियरिंग अनुसंधान बोर्ड (एसईआरबी), भारत सरकार एवं राजभाषा समिति भारतीय प्रोधोगिकी संस्थान (का.हि.वि.) वाराणसी में भाग लिया.
- Participated in SERB sponsored Workshop on Structure-based drug designing for the treatment of Alzheimer's Disease at Department of Pharmaceutical Engineering and Technology, IIT(BHU), Varanasi.
- Participated and presented a poster entitled "Design and Development of some

Quinazoline Derivatives as multitargeting agents in AD therapy" in MPCST & AERB sponsored 1st International conference on "Recent Advancement in Translational Research and Molecular Medicine" organized at Shivajirao Kadam Institute of Pharmaceutical Education and Research, Indore, M.P.

- Participated in National Conference on Computational and Biochemical Drug Discovery-2021 organized by DST funded I-DAPT HUB Foundation IIT(BHU), Varanasi.
- Participated in short-term course on "Computer Aided Drug Design and Protein Analysis" organized by DST funded I-DAPT HUB Foundation, a Technology Innovation Hub on Interdisciplinary Data Analytics and Predictive Technology (IDAPT) at IIT(BHU), Varanasi.
- Participated in 26th International Conference of International Academy of Physical Sciences on "Advances on Chemistry and Chemical Technology" and presented a paper entitled" Design, Synthesis, and Evaluation of Some Novel Biphenyl imidazole Derivatives for the Treatment of Alzheimer's Disease" held at IIT(BHU), Varanasi.
- Participated in "opportunities & Challenges during COVID-19-A Medical Perspective" organized by Bhavdiya Institute of Pharmaceutical Sciences and Research, Ayodhya.
- Participated in webinar on "Trends in Publishing" organized by SPRINGER NATURE in collaboration with INFLIBNET Centre".
- Participated in National Seminar on "Novel Drug Delivery of Phytochemical Formulation in Lifestyle Disorders" sponsored by Dr. A.P.J. Abdul Kalam Technical University, Lucknow held at Bhavdiya Institute of Pharmaceutical

Sciences and Research, Ayodhya.

- Participated in one day workshop on “GC-MS Application and Sample Preparation Techniques” organized by Central Instrumentation laboratory, Central University of Punjab, bathinda, Punjab.