

**Synthesis of 1,3-diaryl-spiro[azetidine-2,3'-indoline]-2',4-diones via Staudinger reaction:
cis- or *trans*- diastereoselectivity at different addition modes**

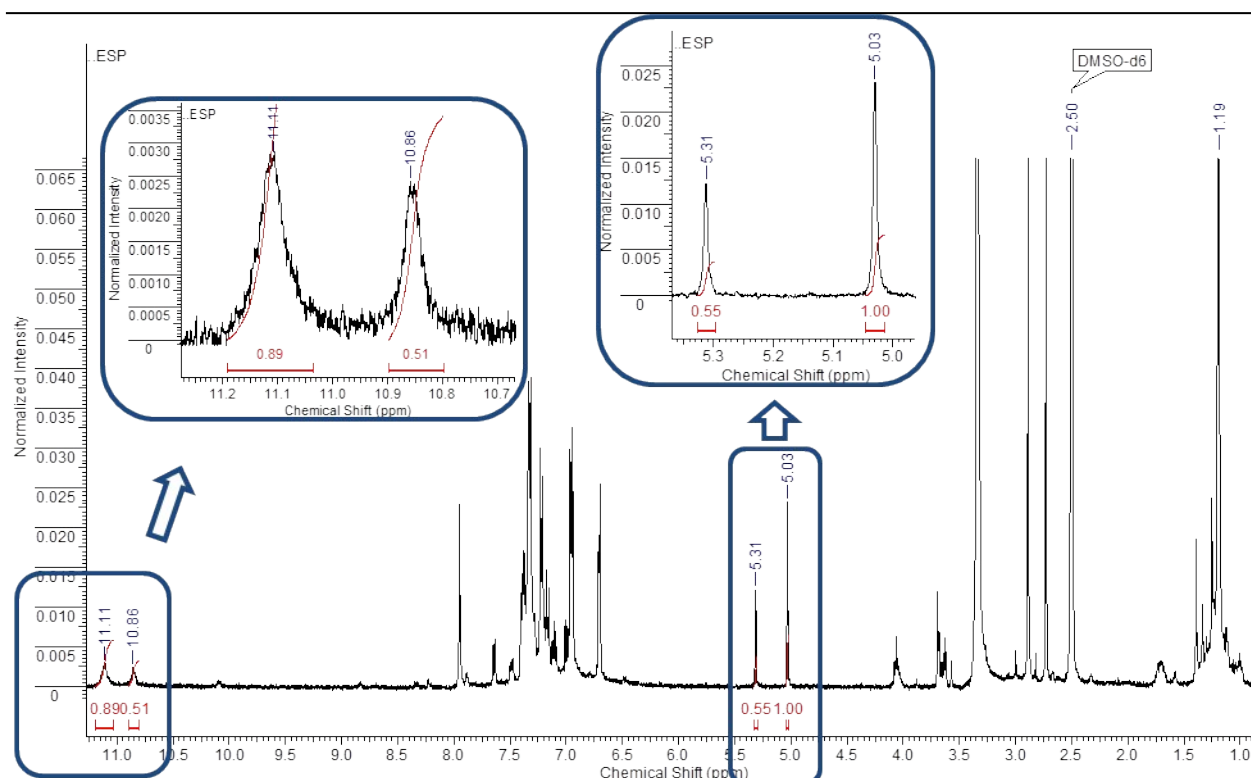
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Nikolay V. Zyk,[‡] Alexander G. Majouga,^{†*} and Elena K. Beloglazkina ^{*†}

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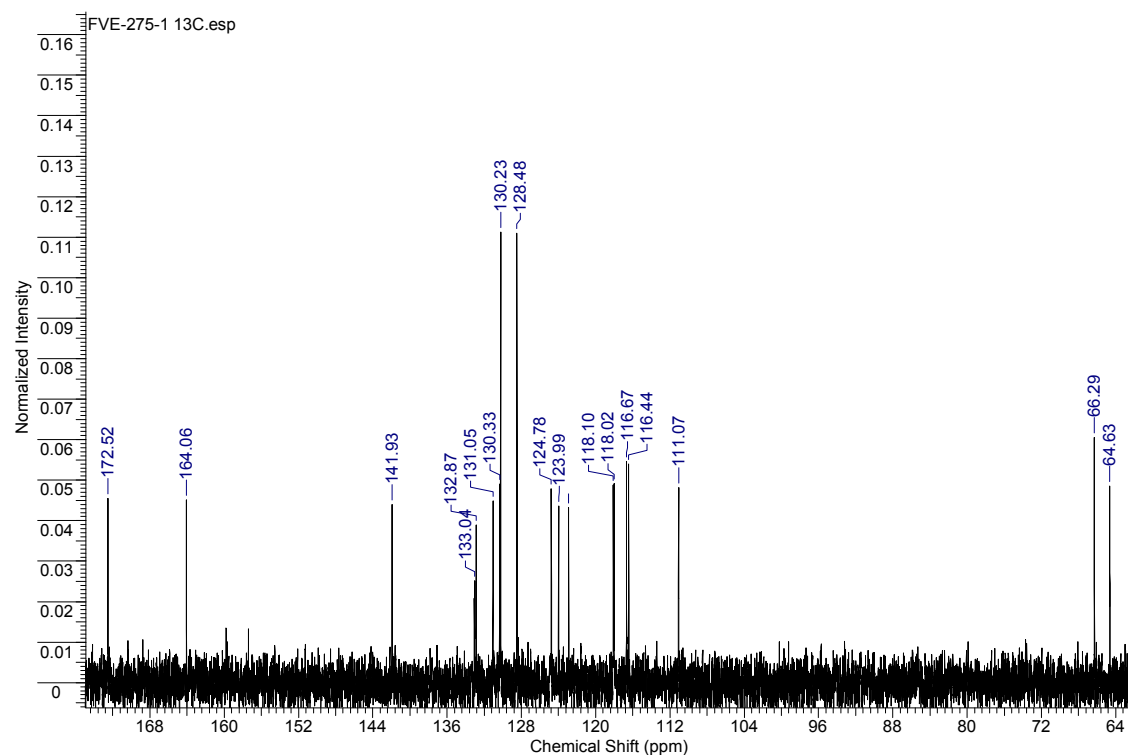
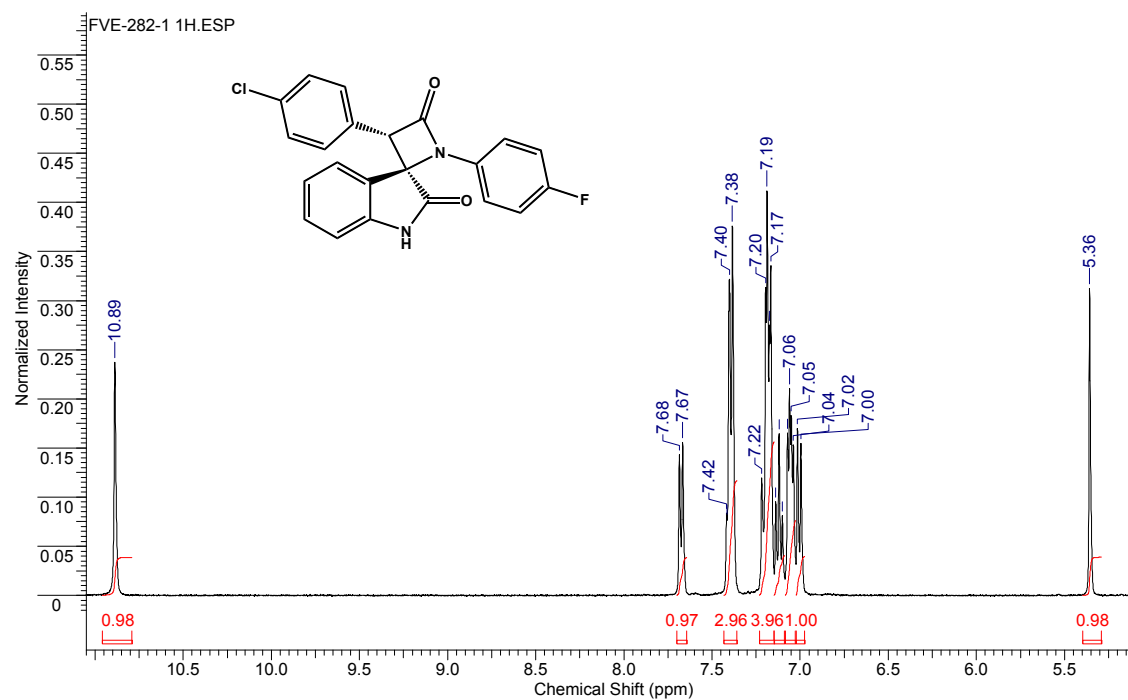
Supplementary Information

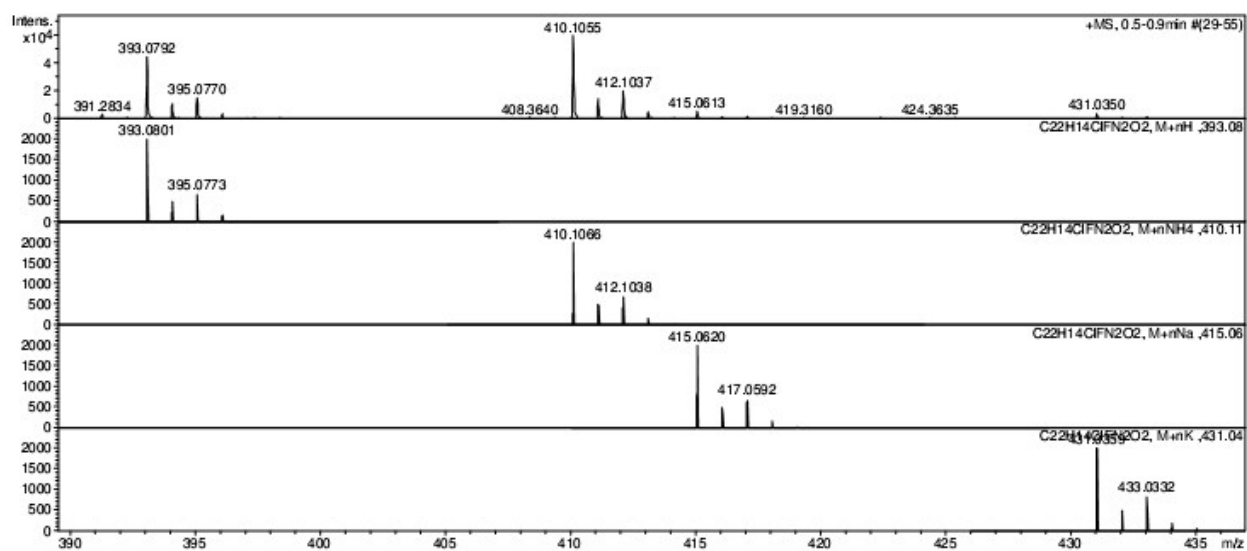


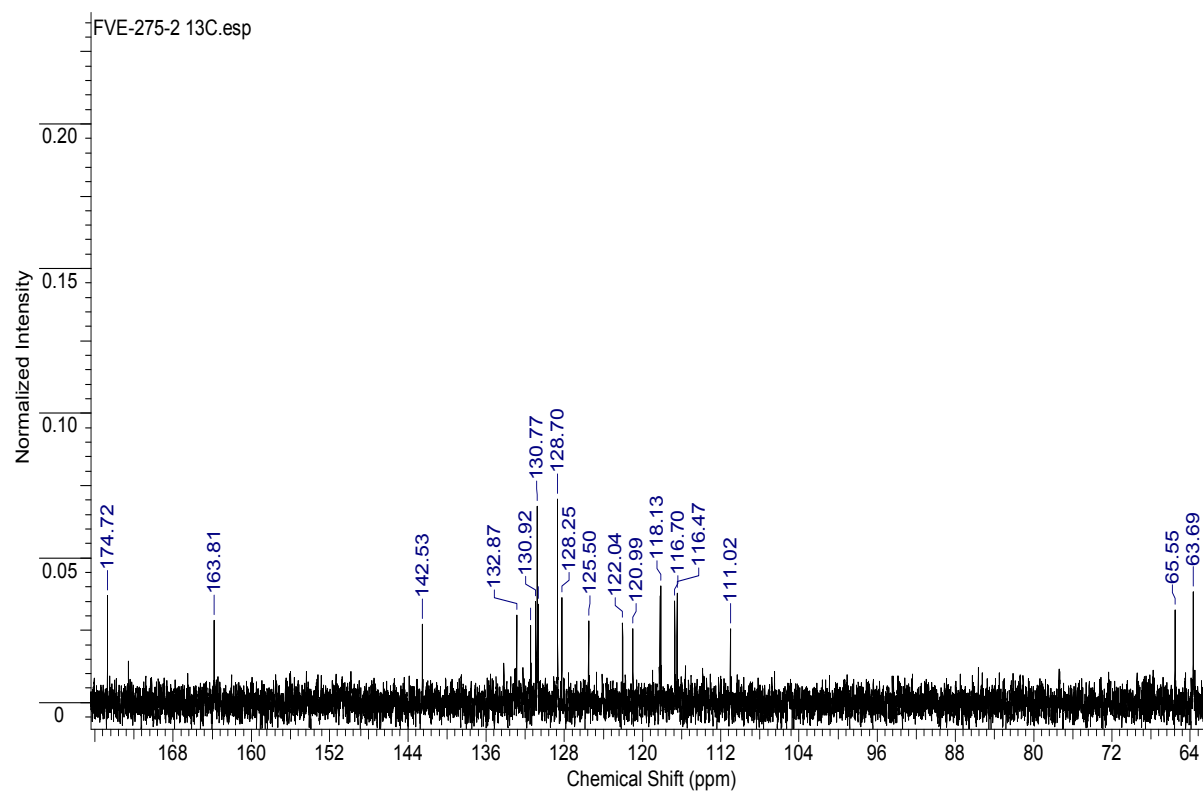
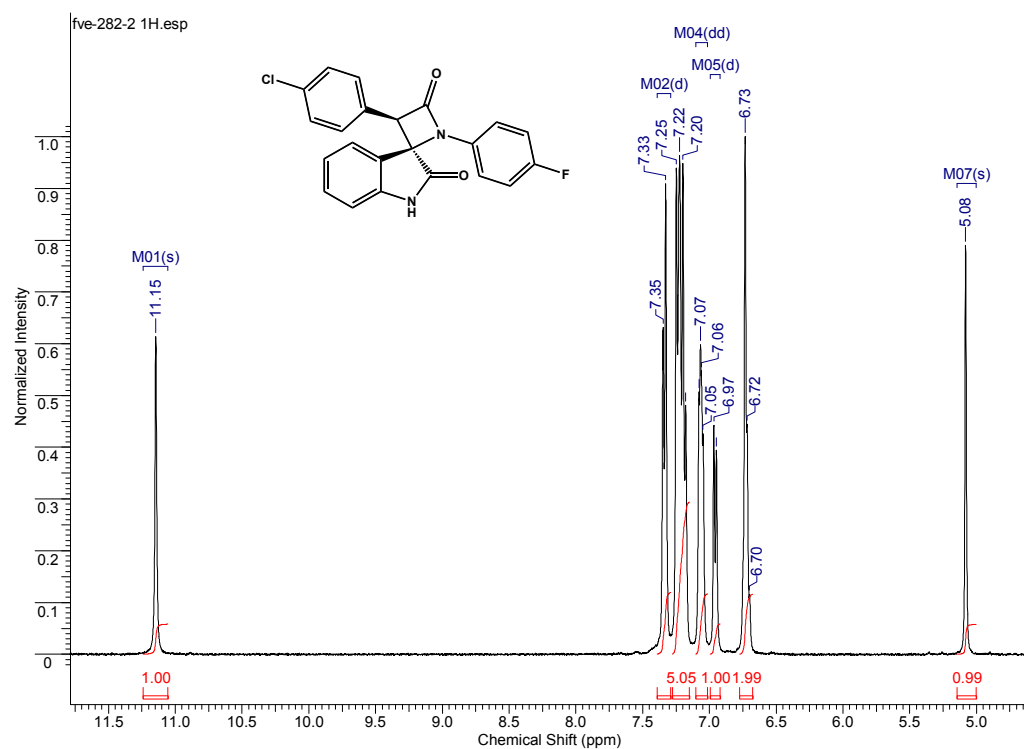
Characteristic regions in ¹H NMR spectra of reaction mixture of Staudinger reaction showing the ratio of diastereomers.

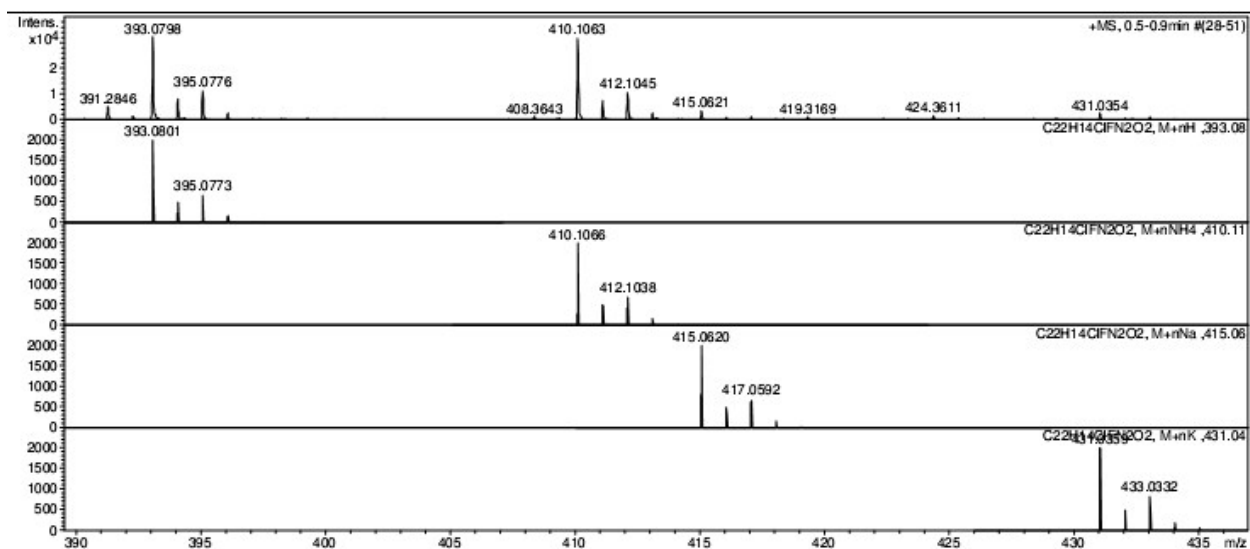
NMR and HRMS spectra of compounds **22-42**.

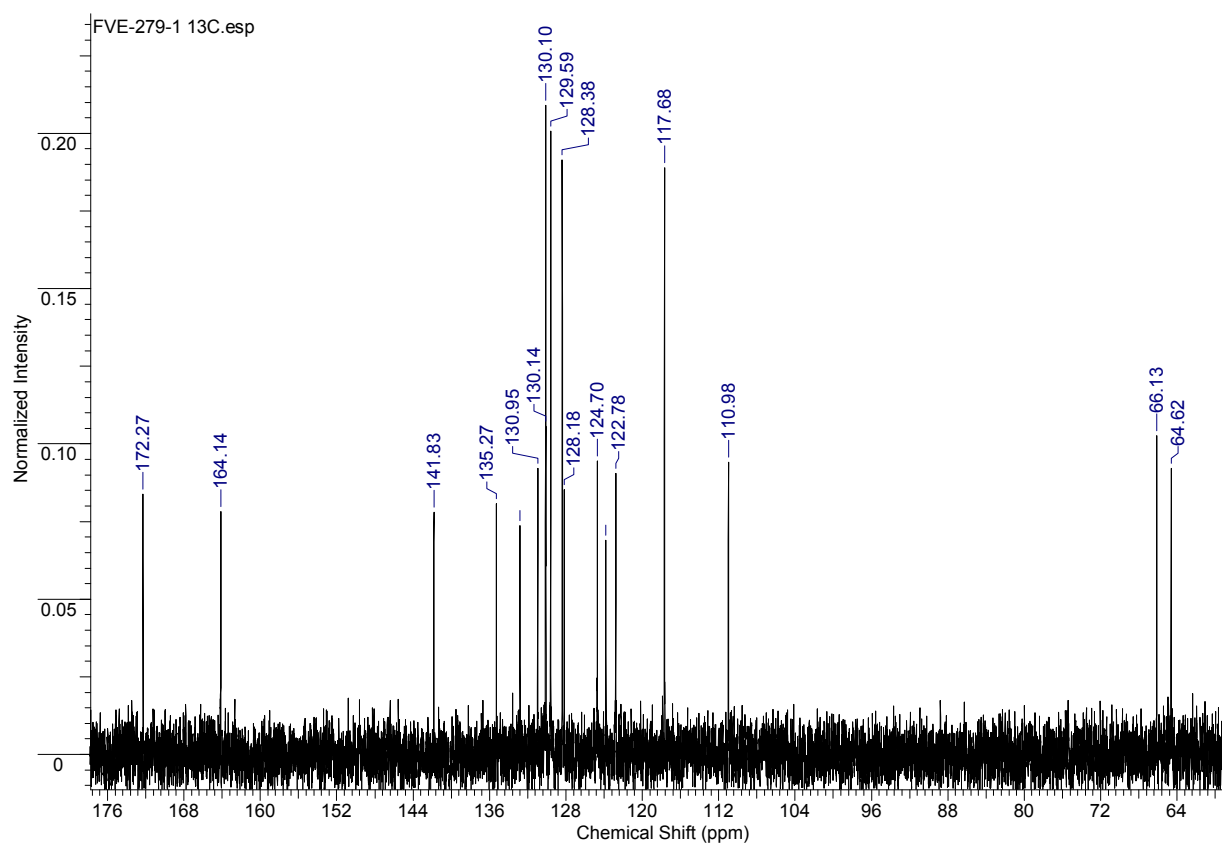
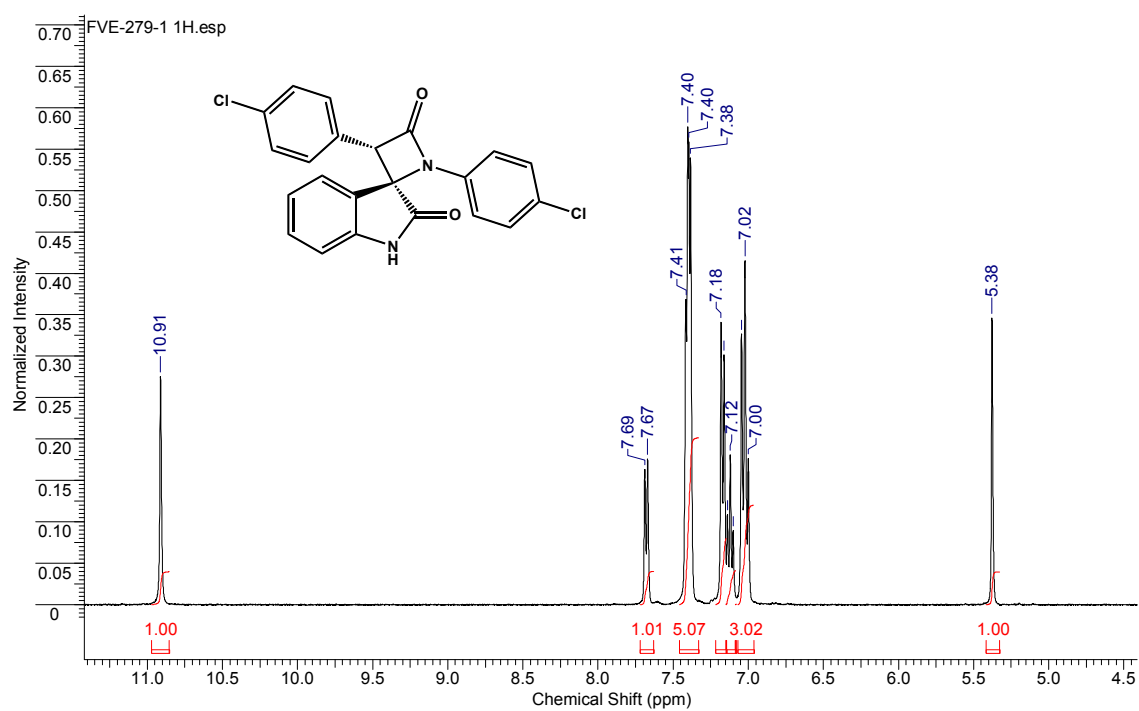
22a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

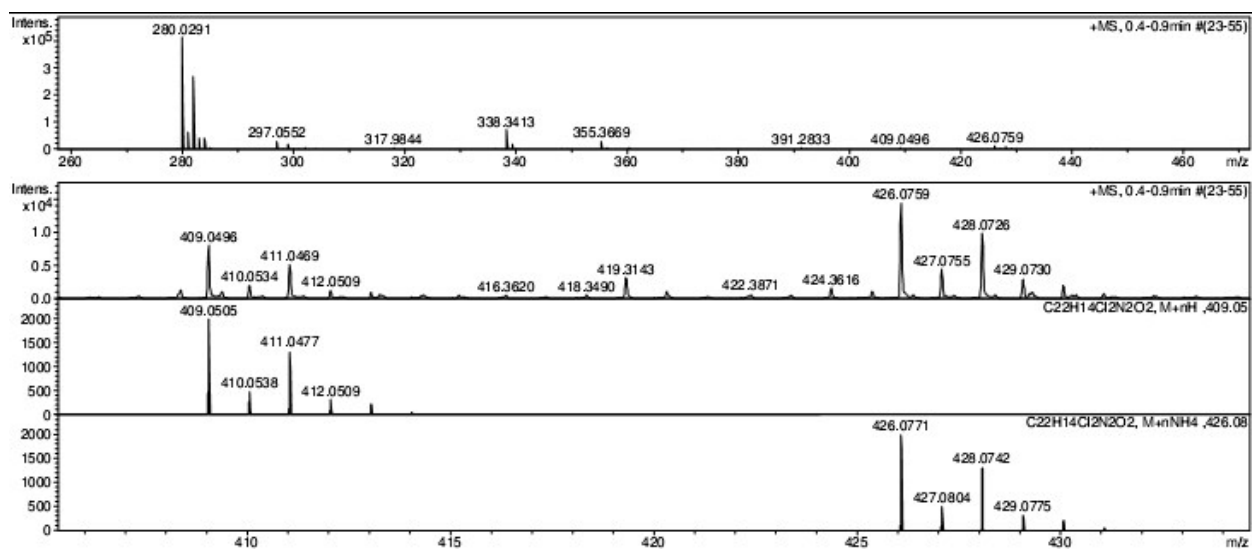


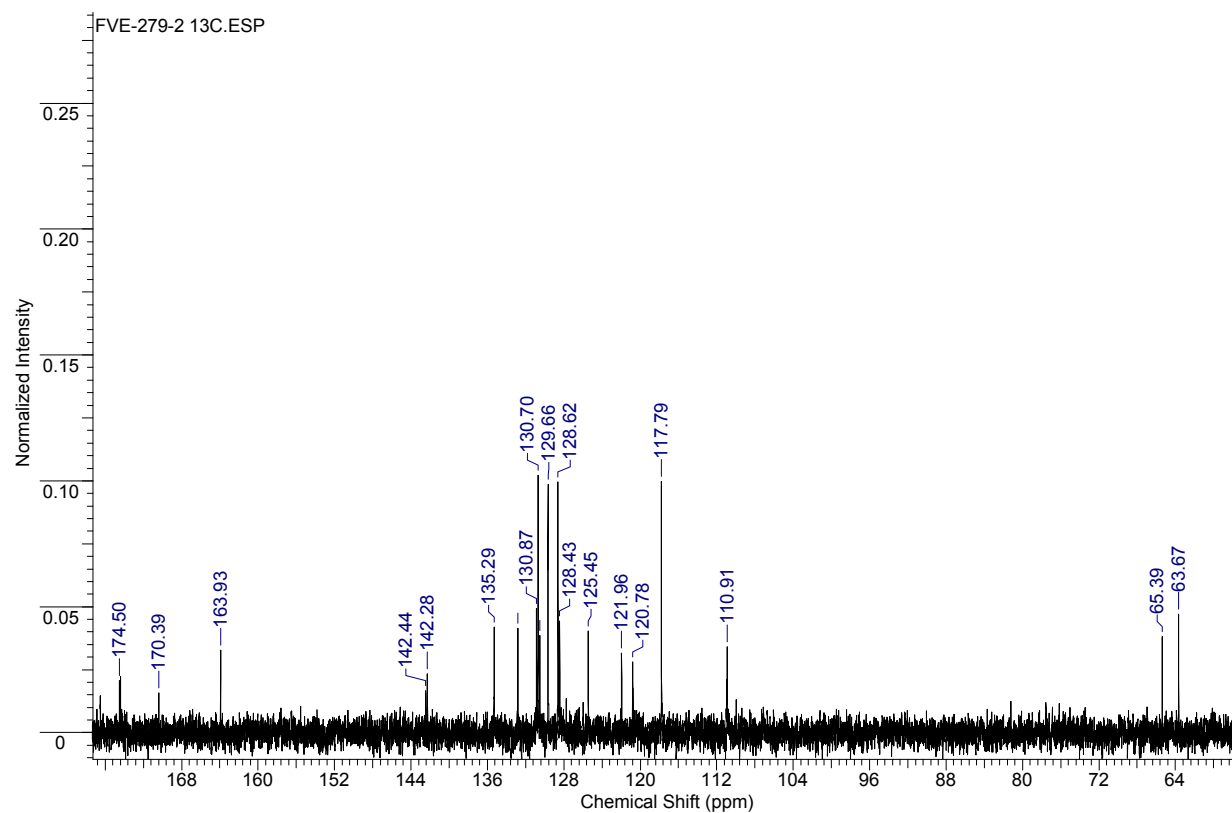
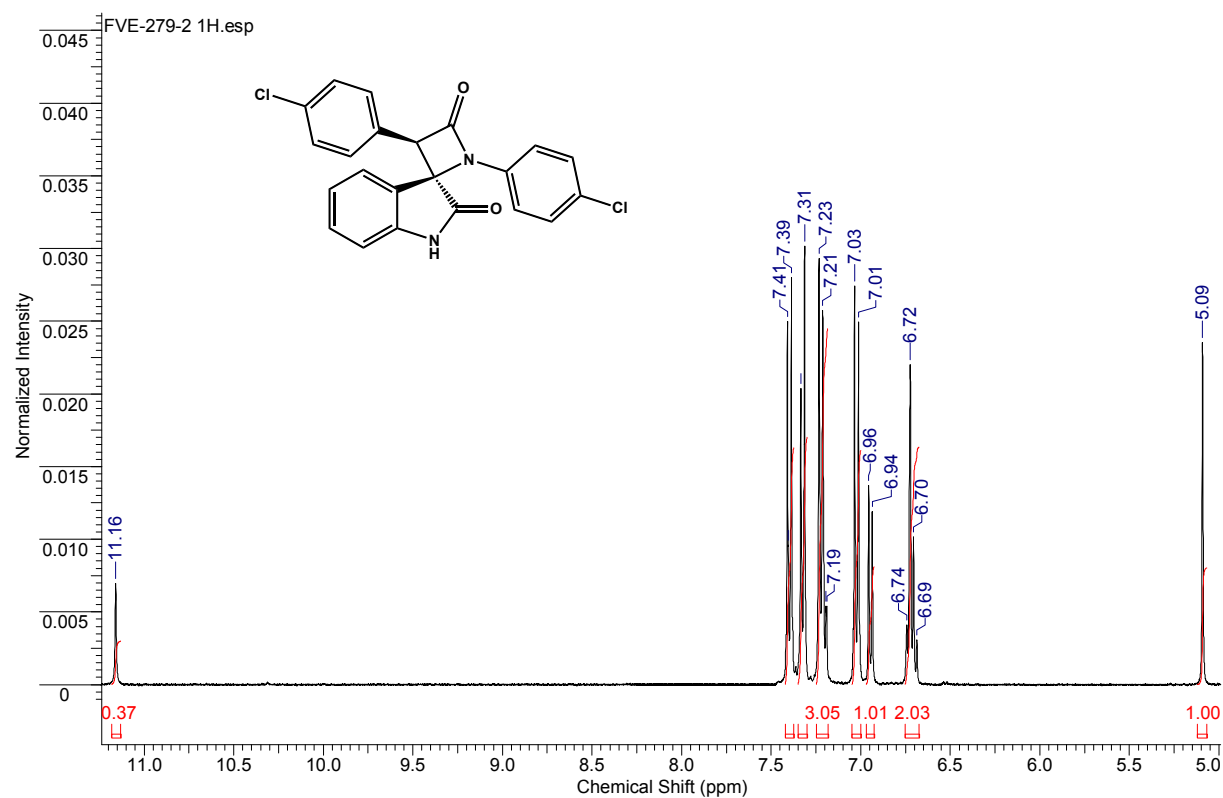


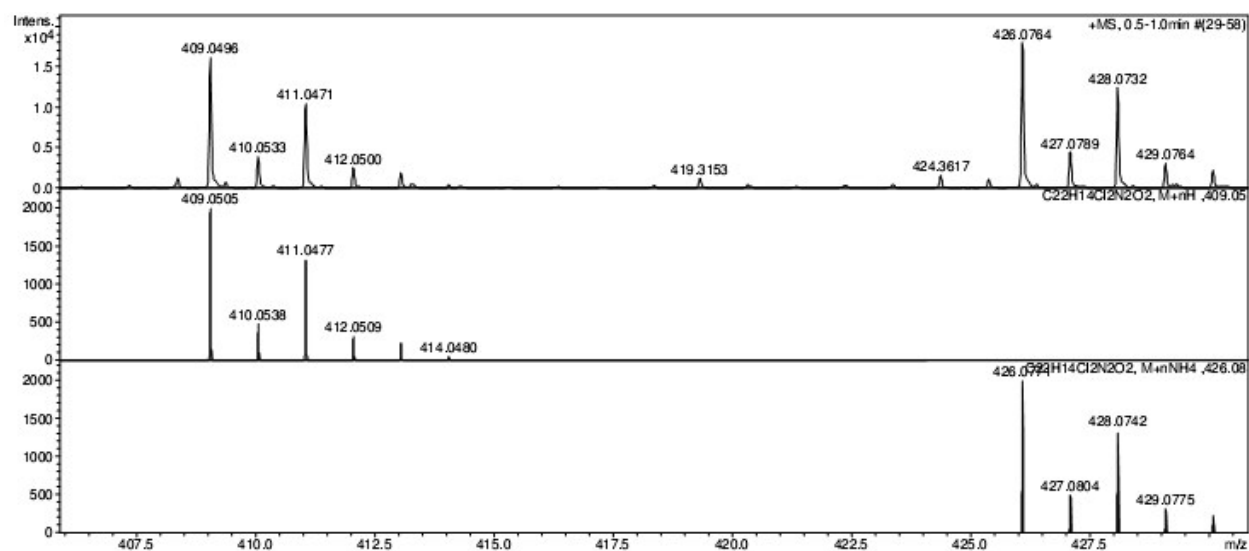
22b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione



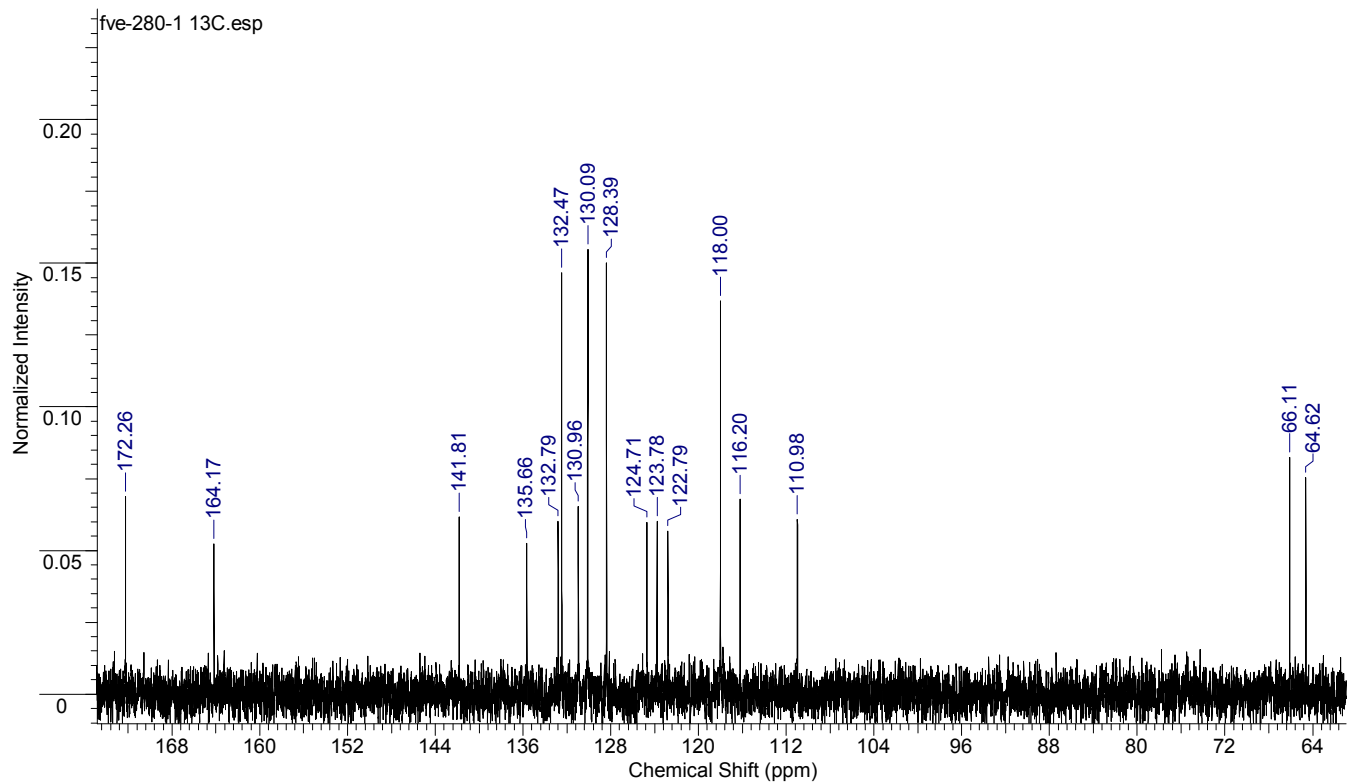
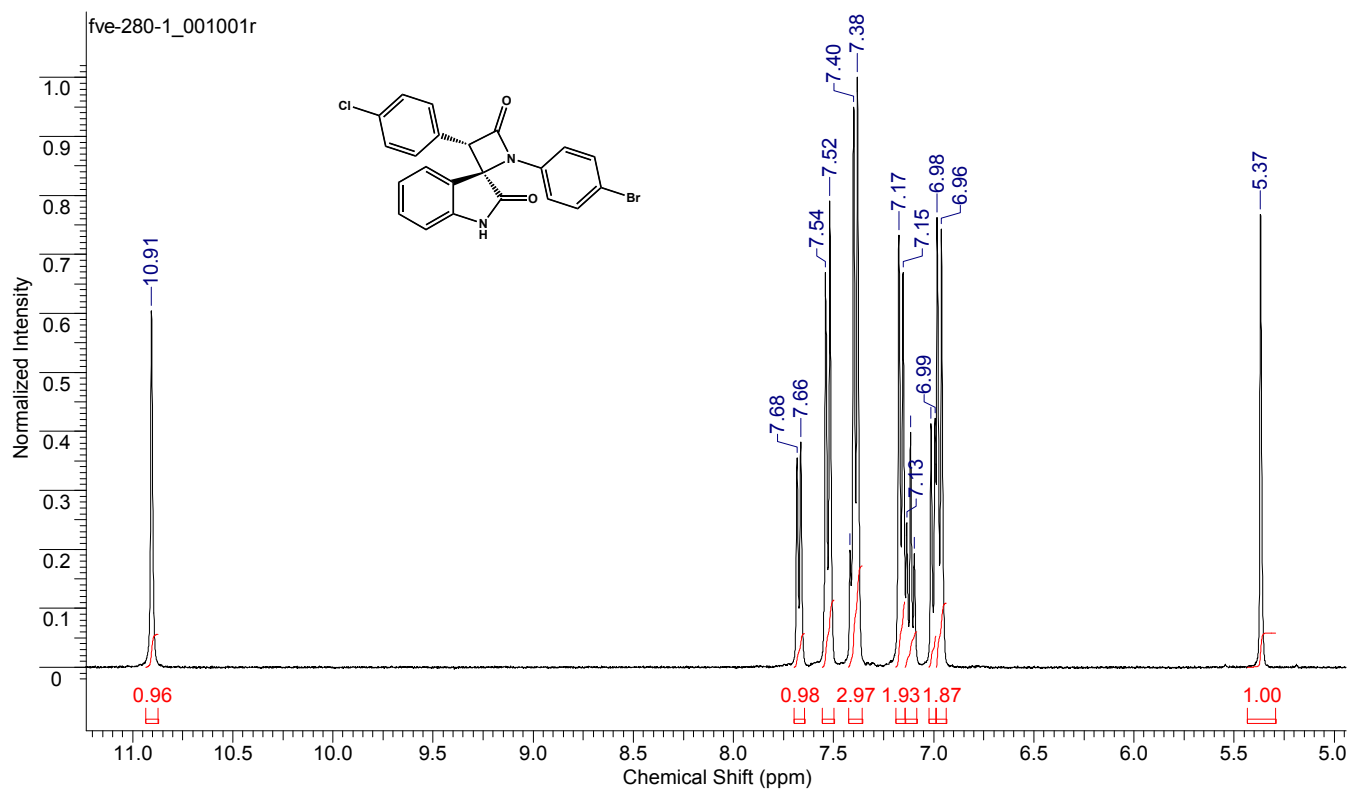
23a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-chlorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

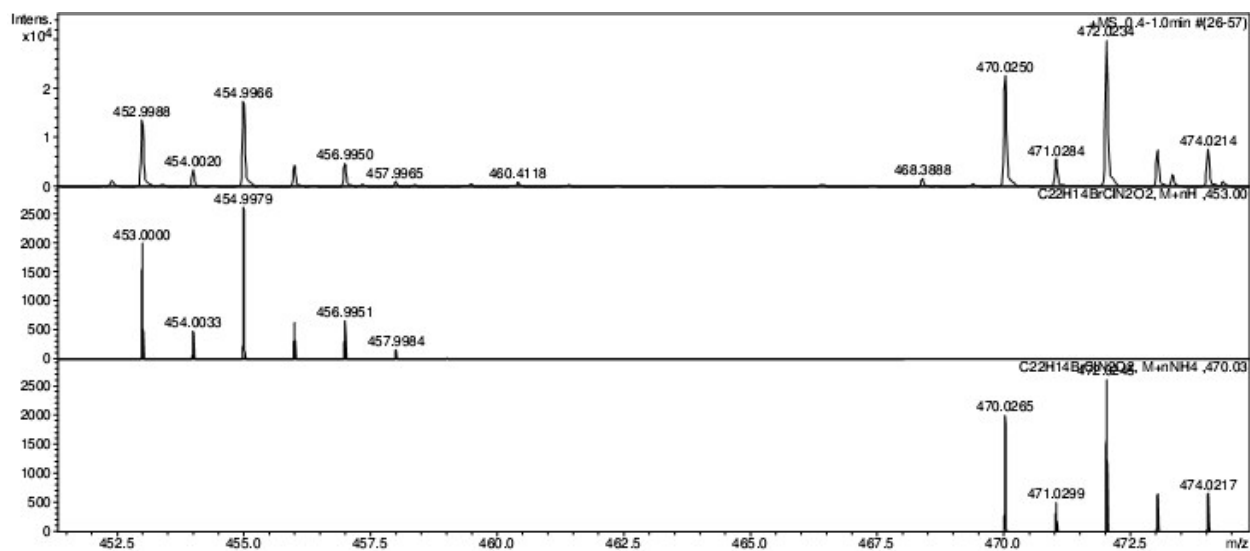


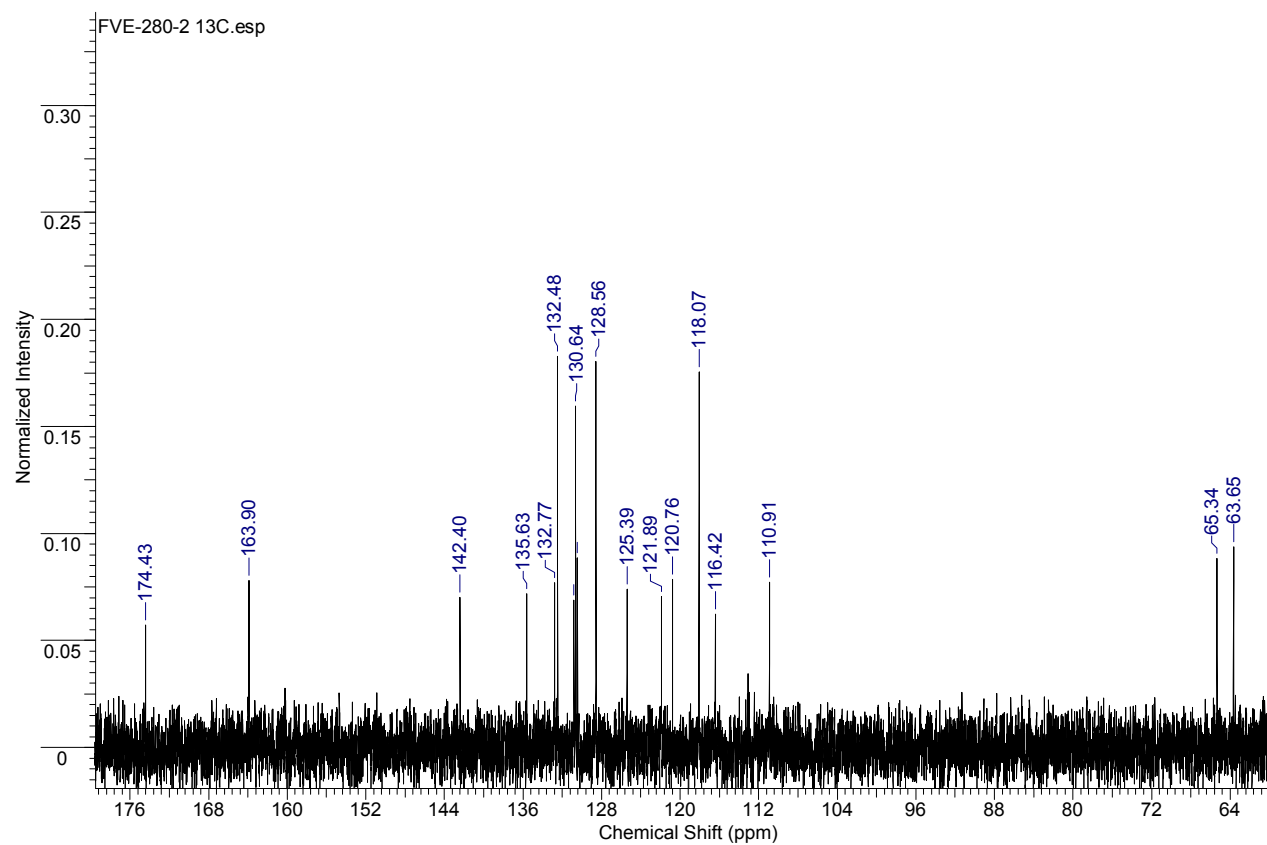
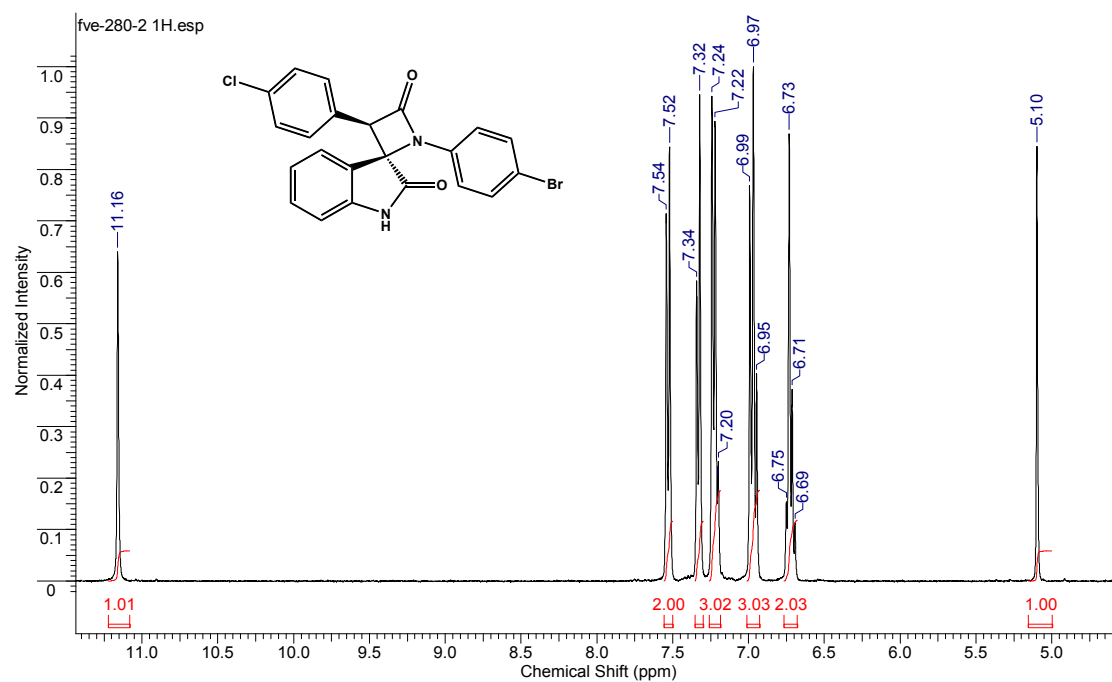
23b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(4-chlorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

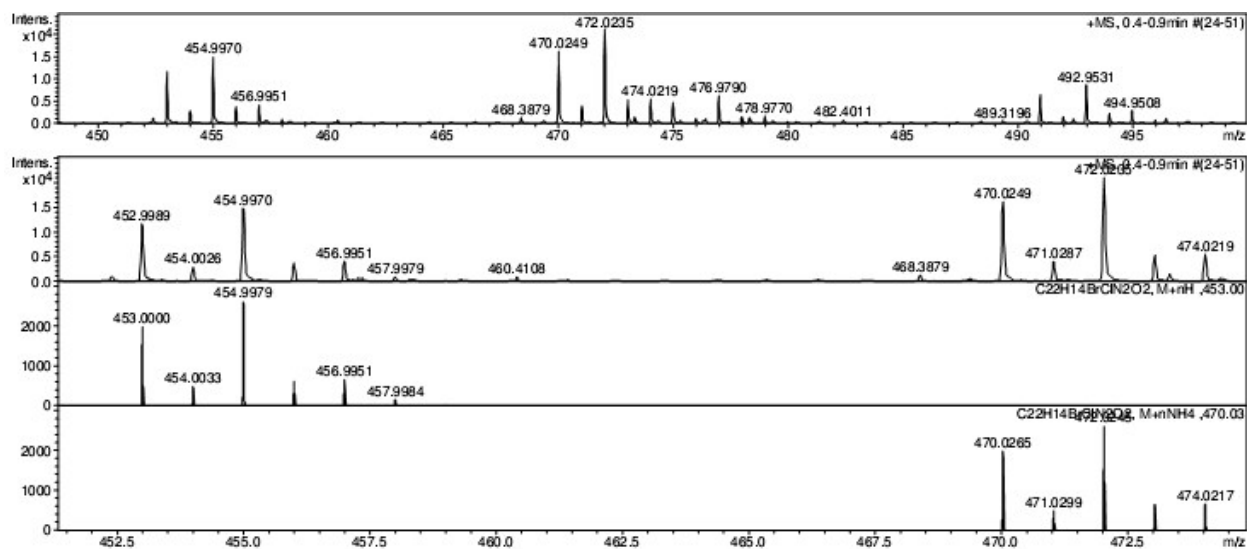


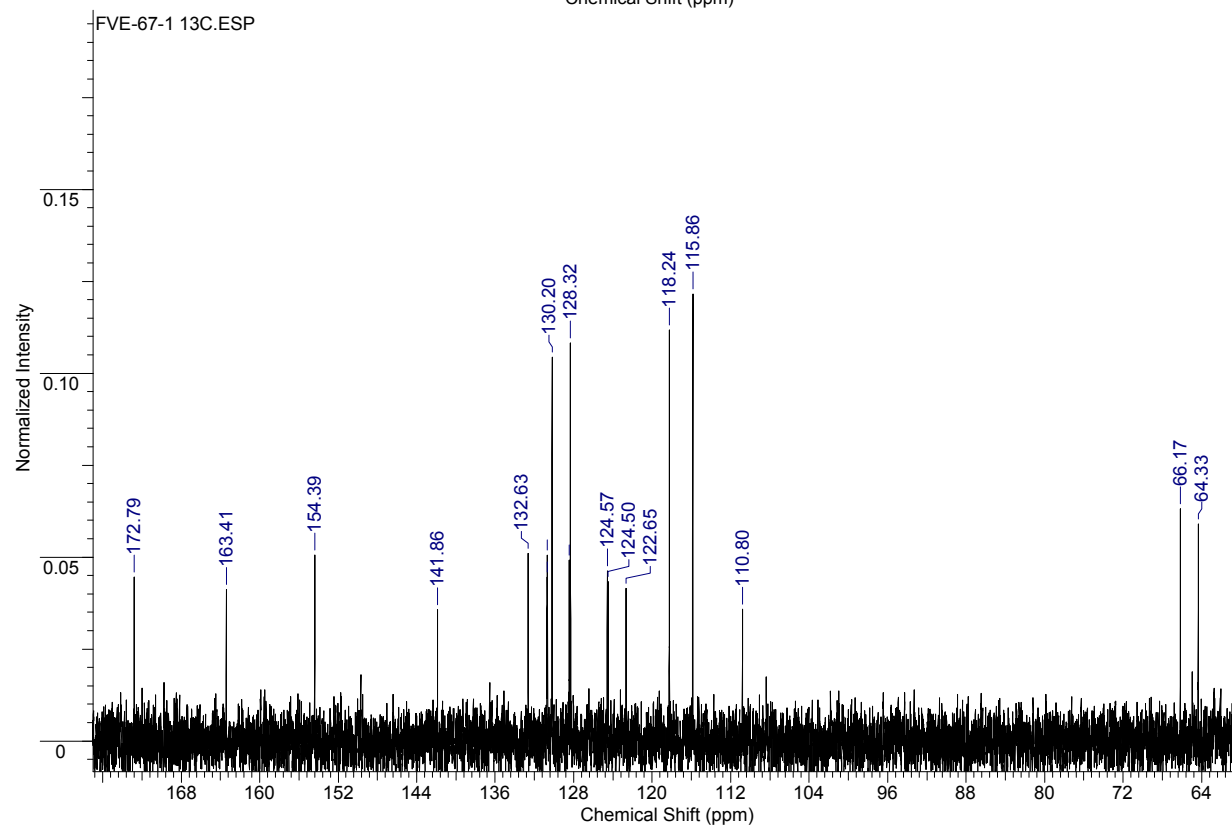
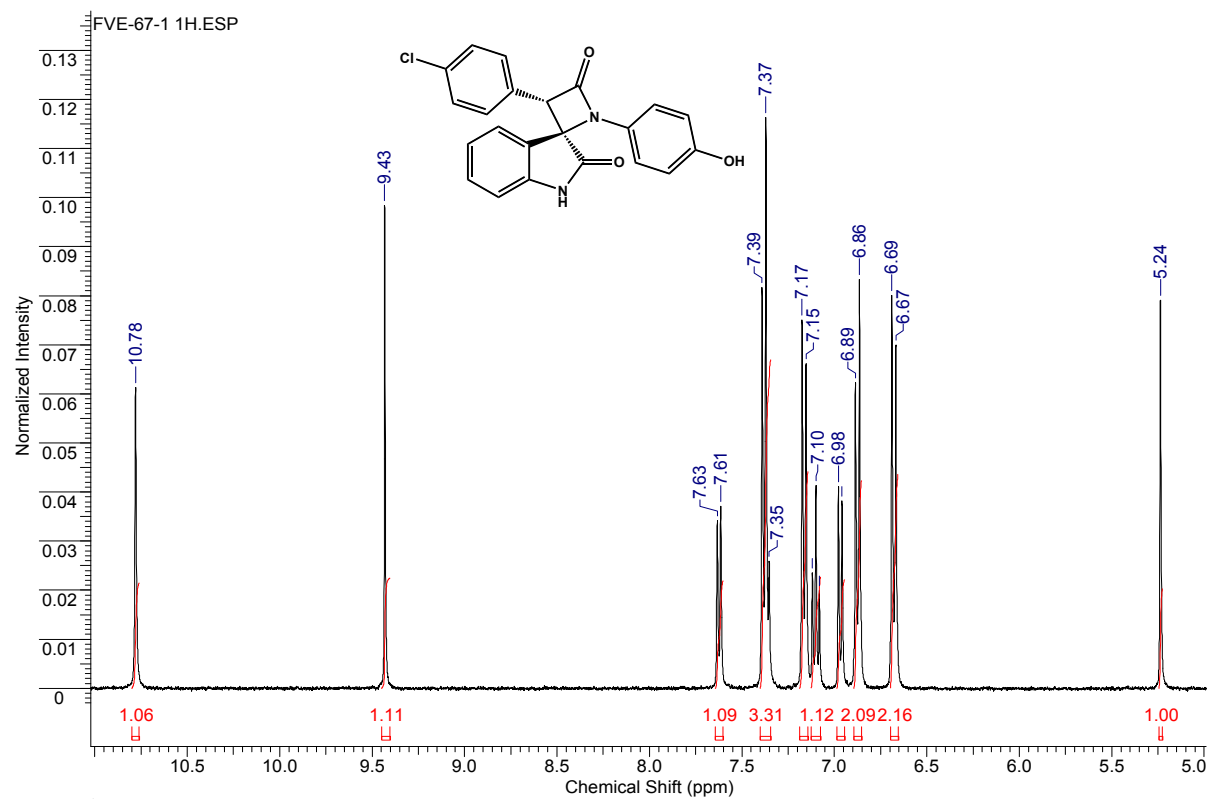
24a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-bromophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

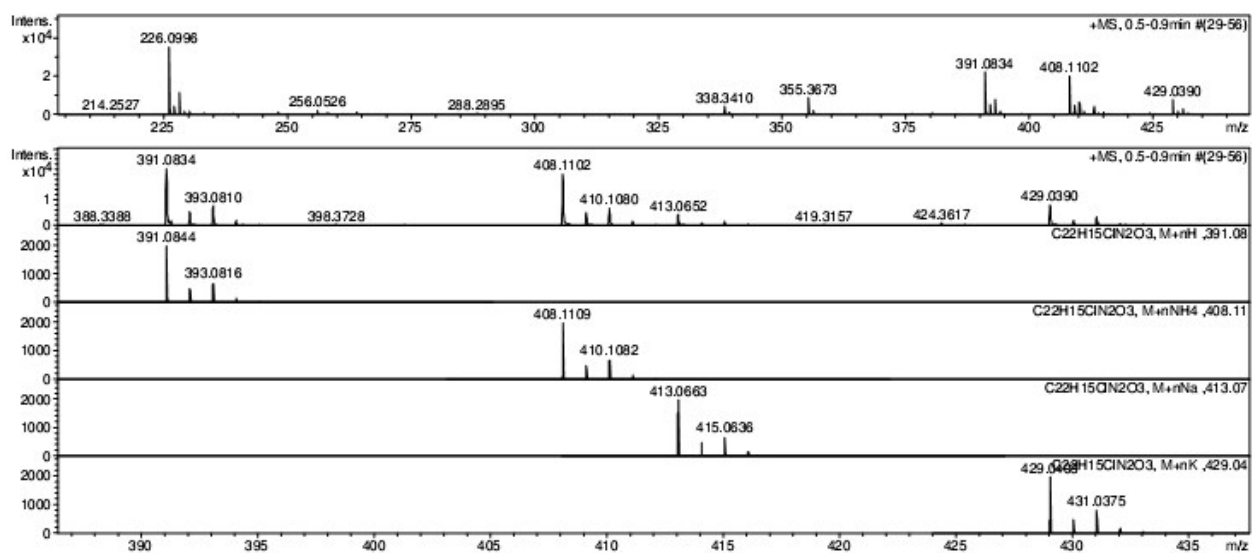


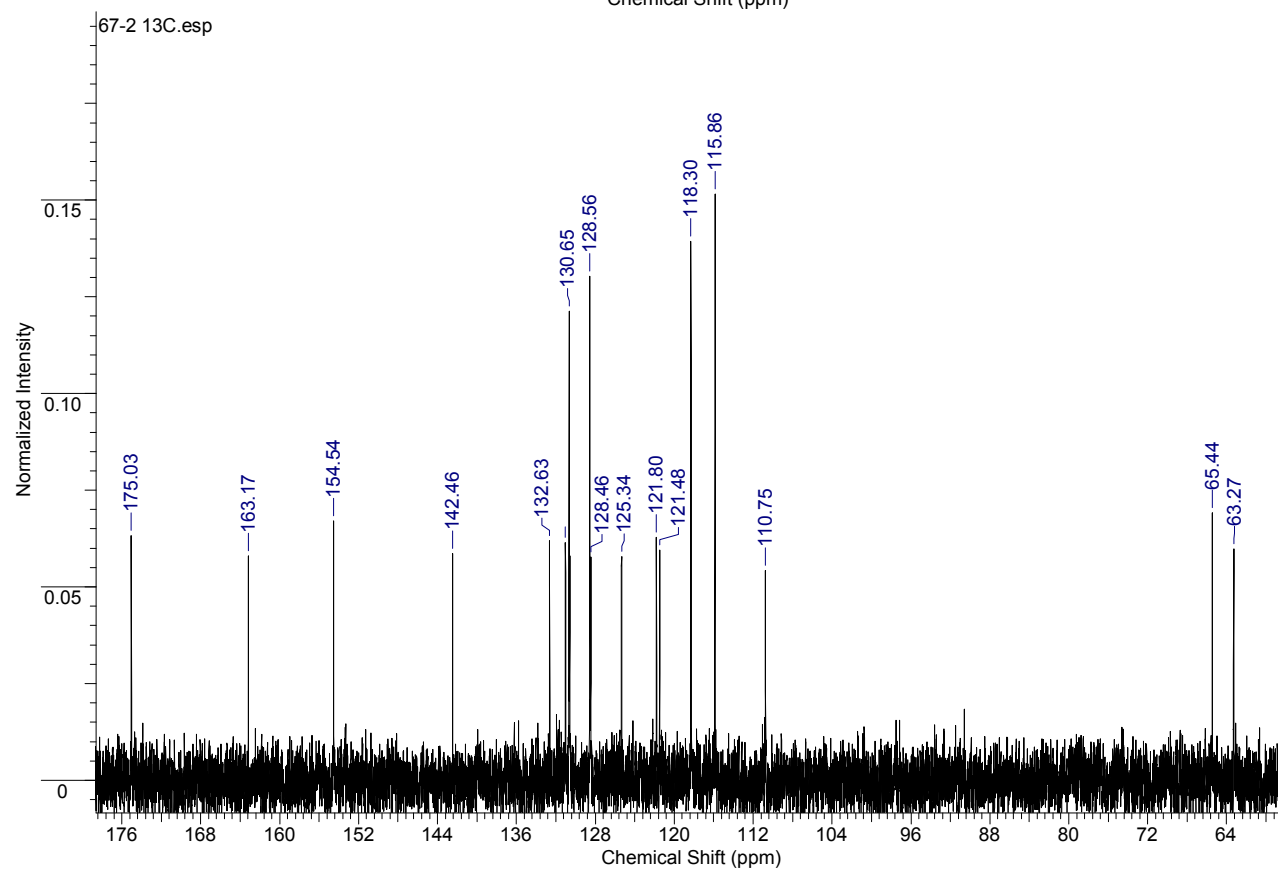
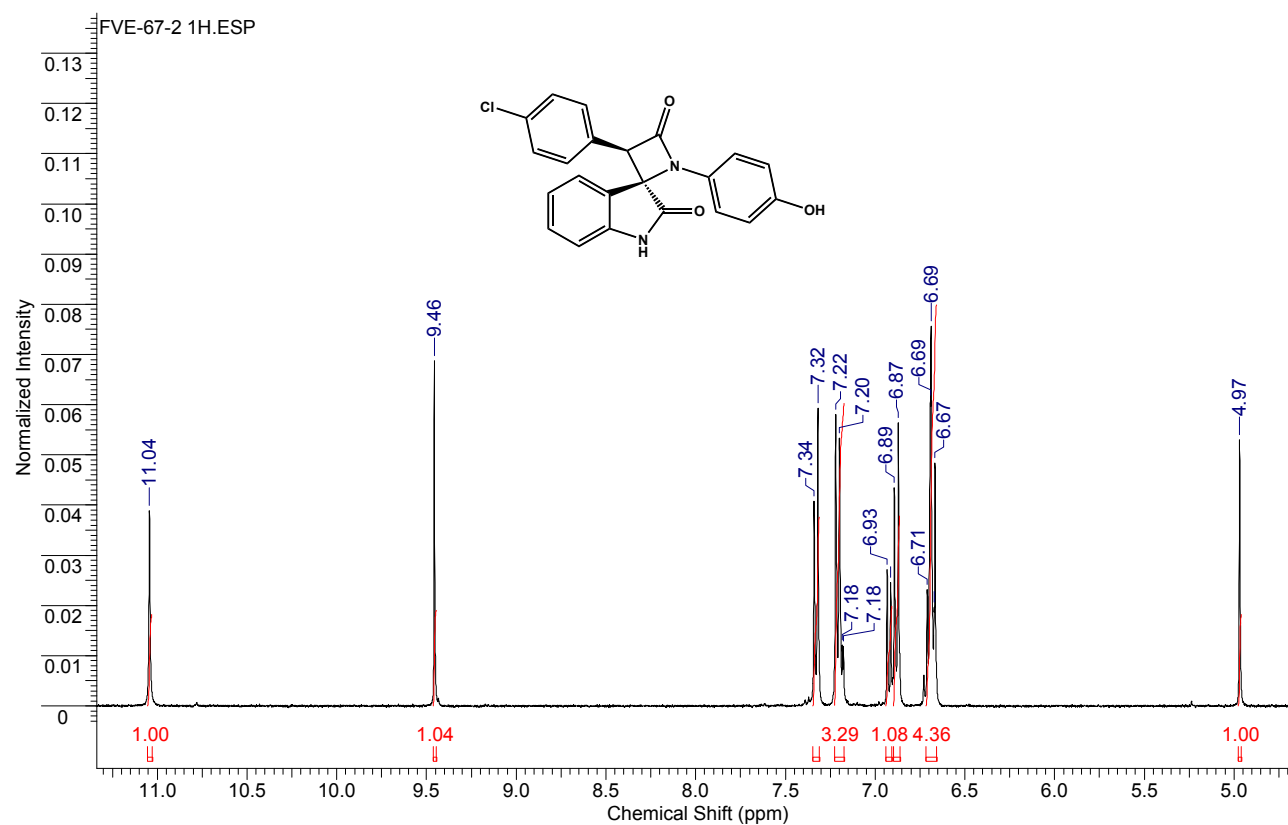


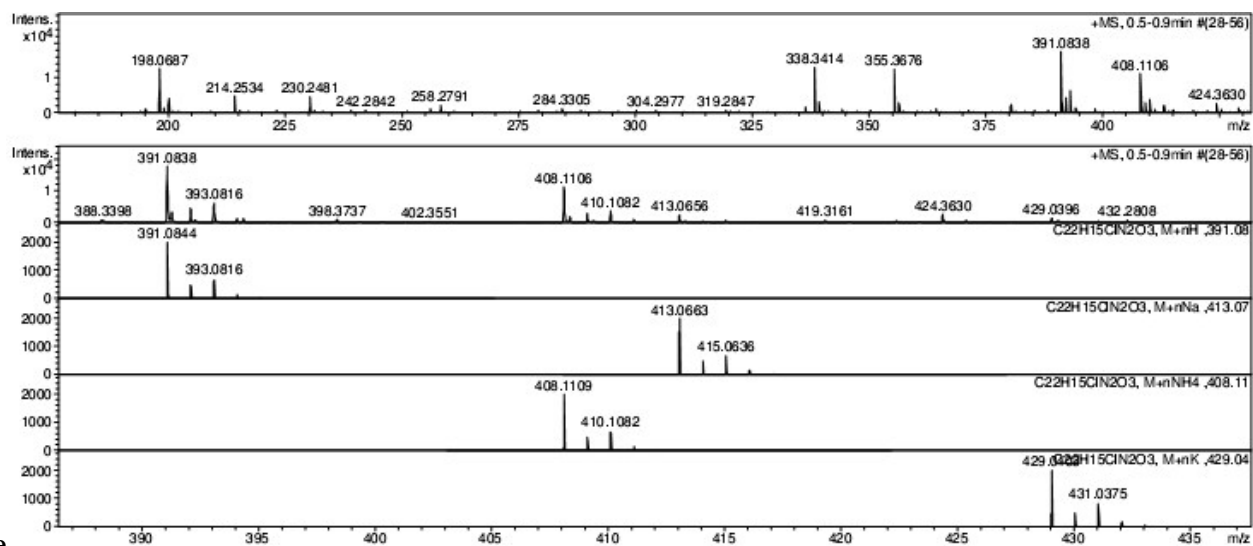
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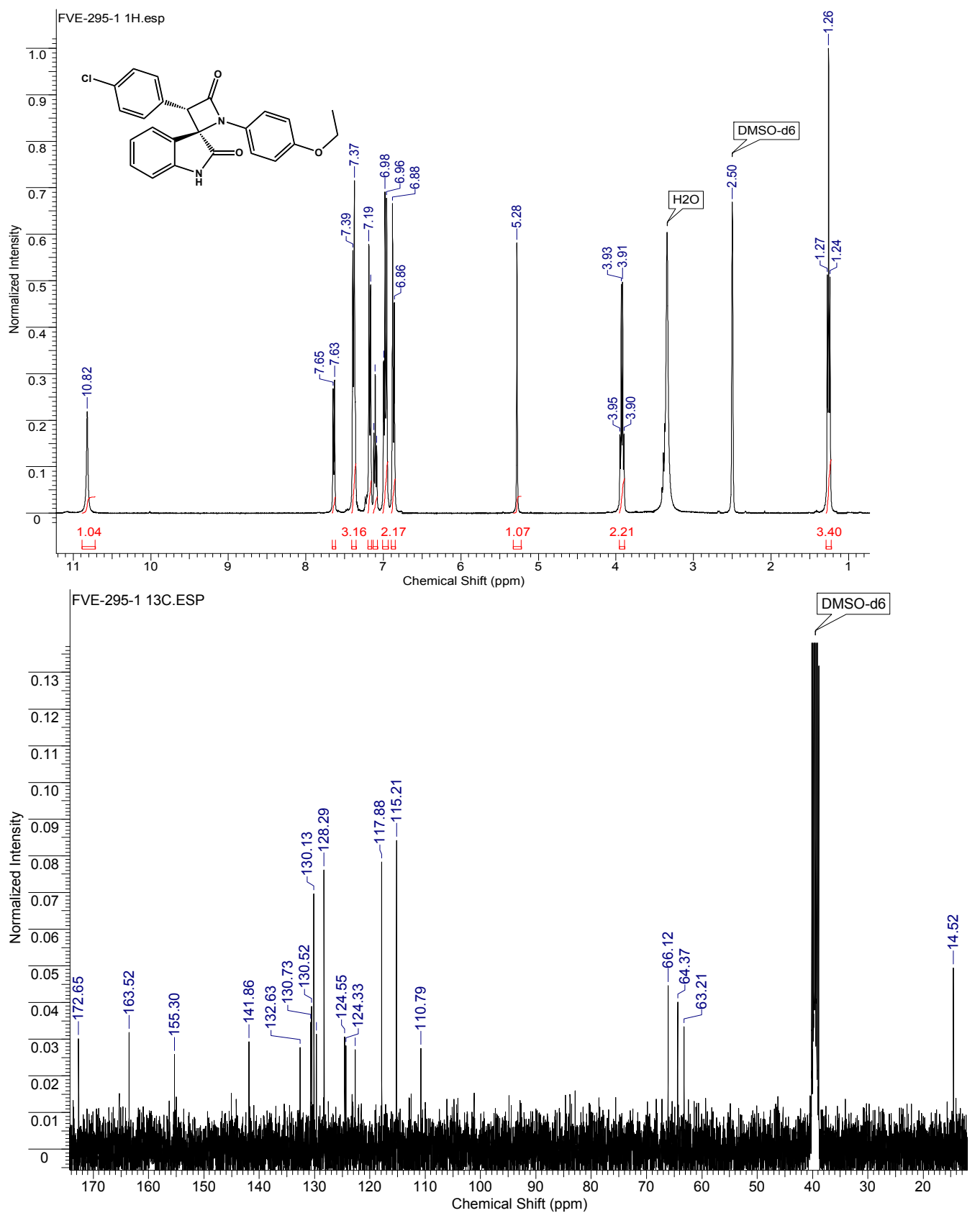
25a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-hydroxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

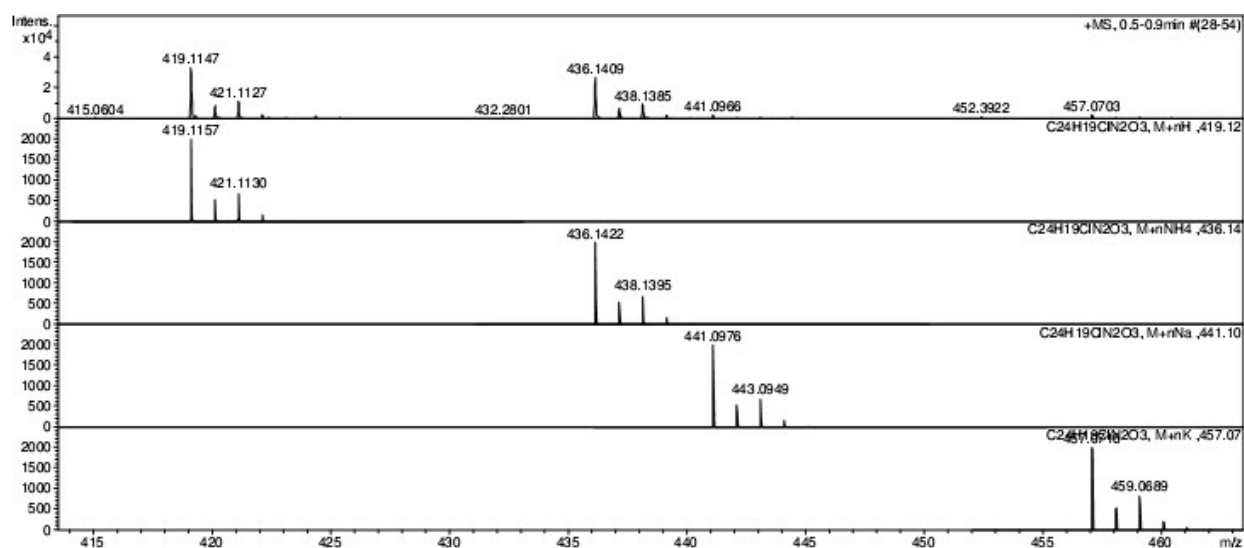


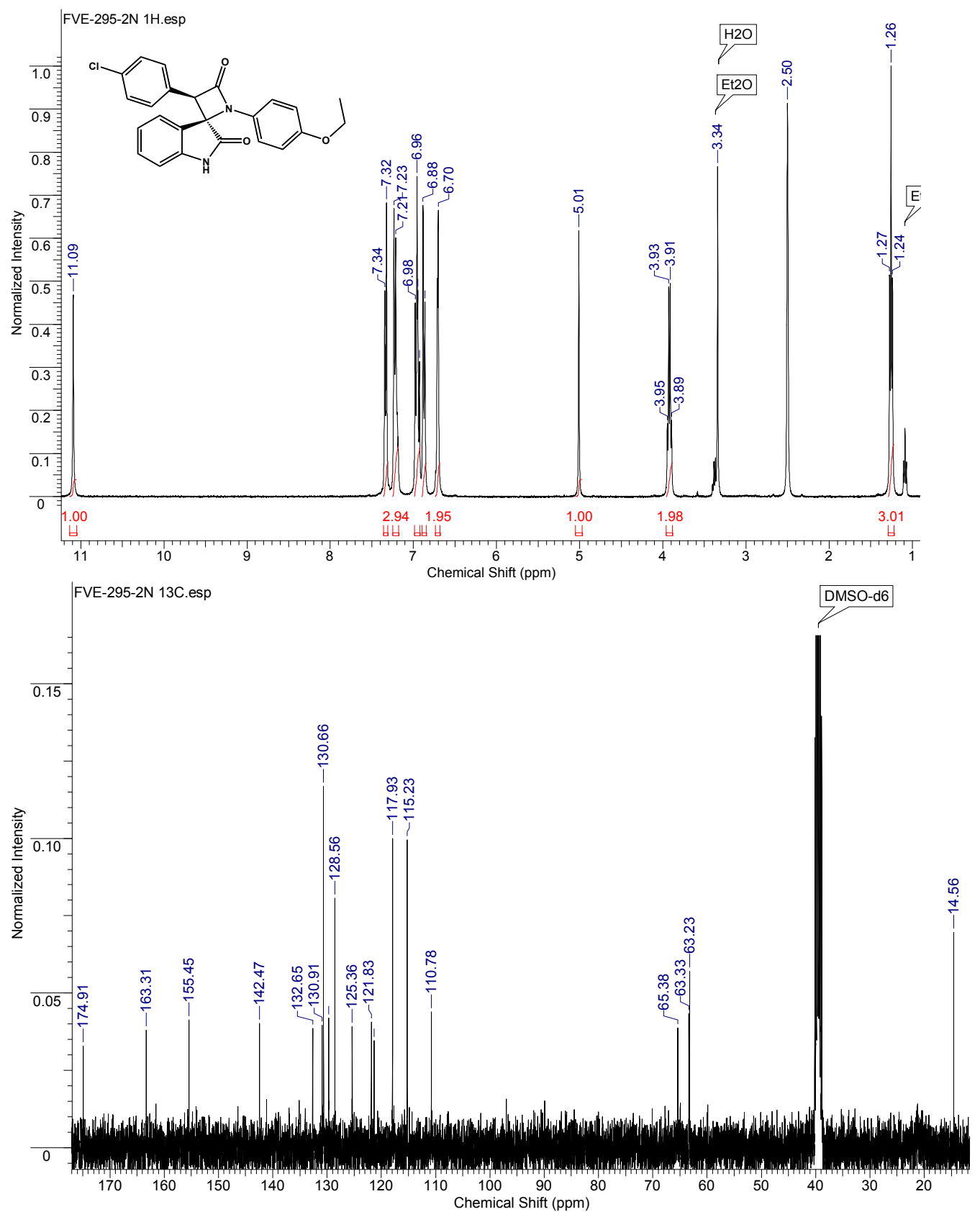
25b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(4-hydroxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

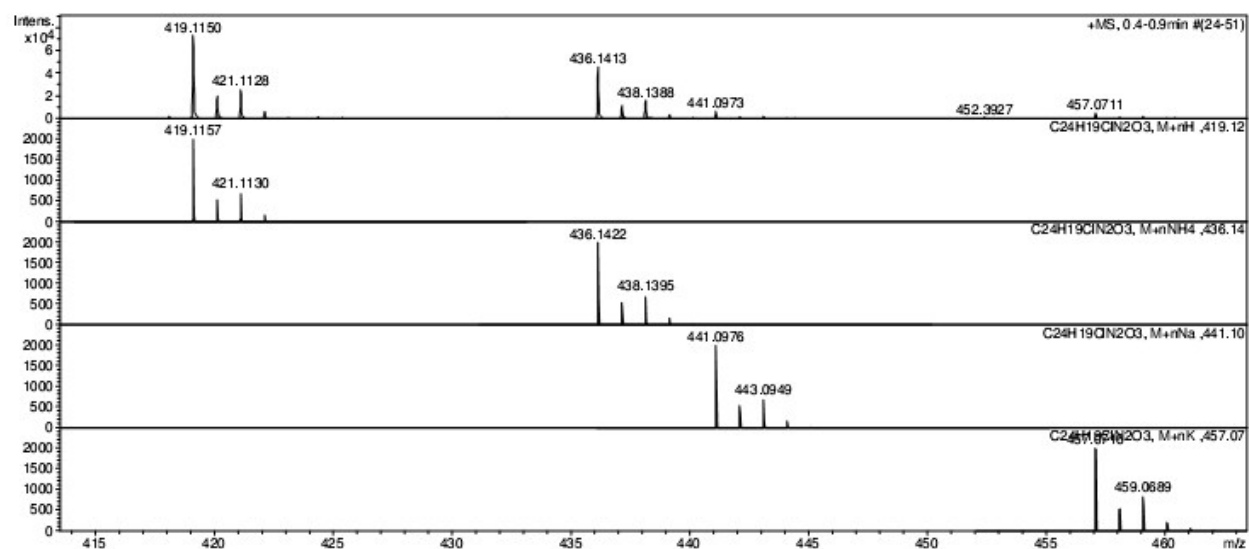


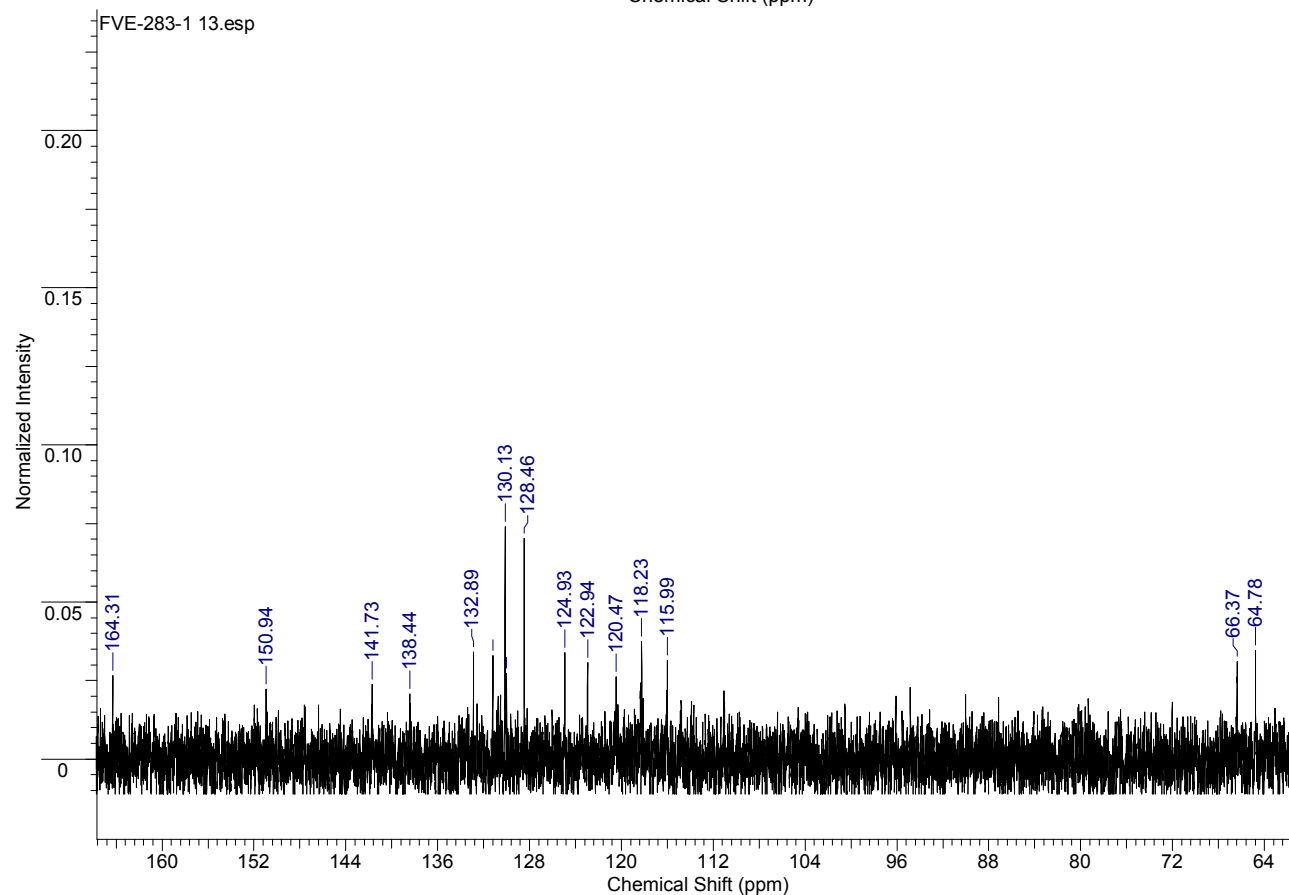
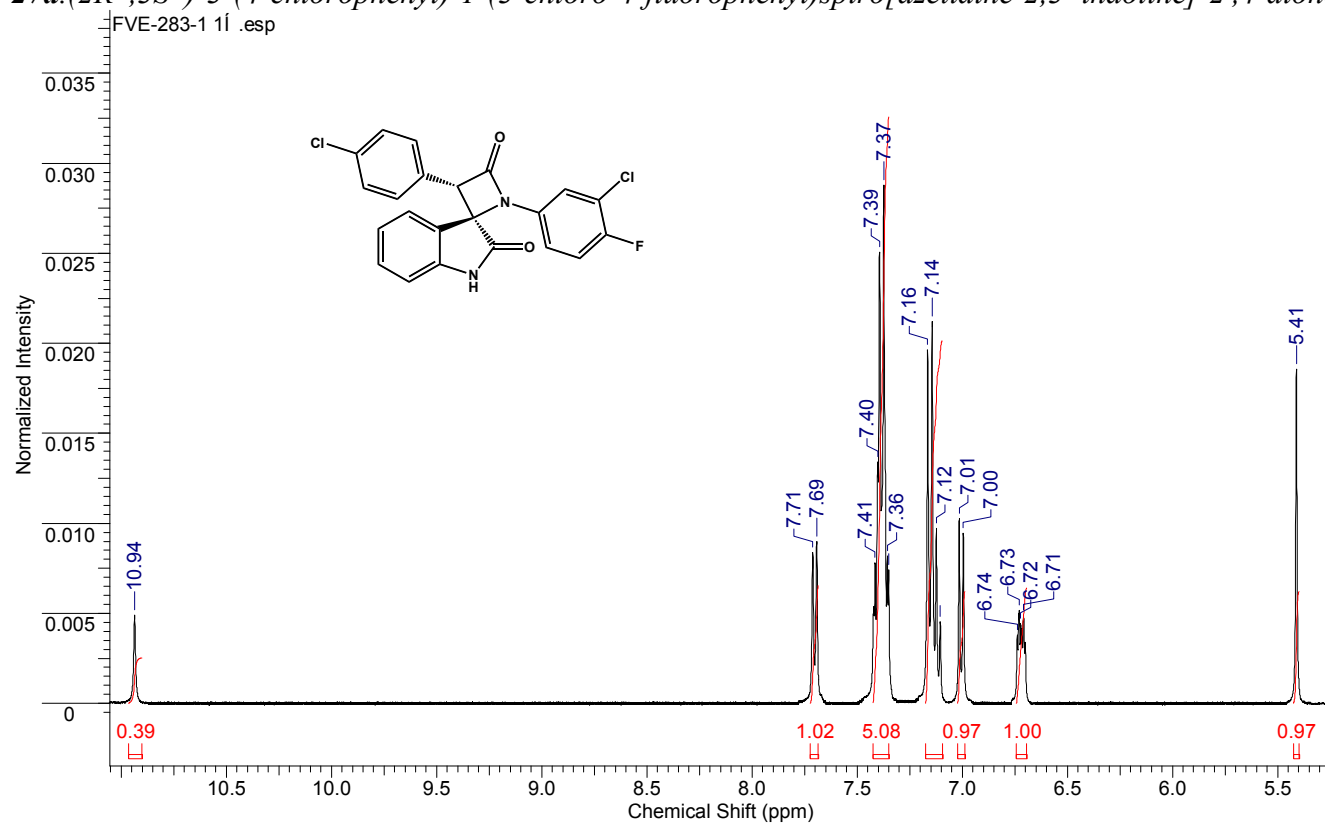
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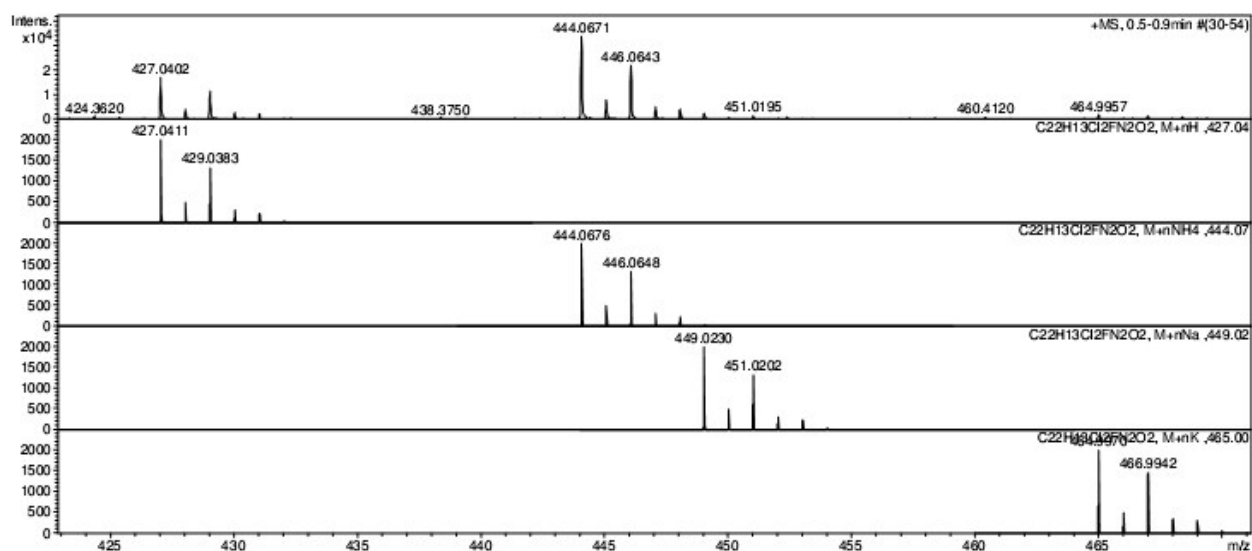
26a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-ethoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

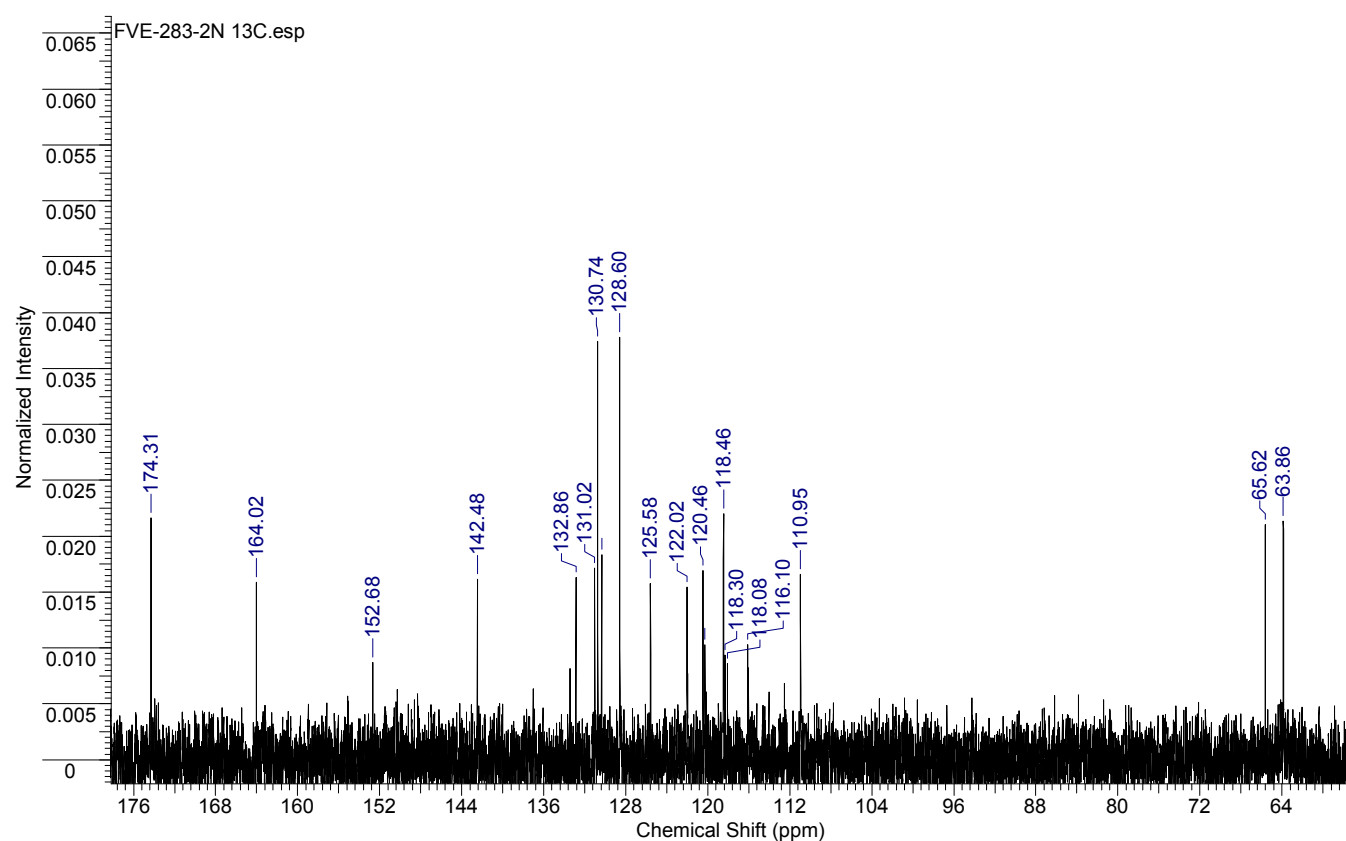
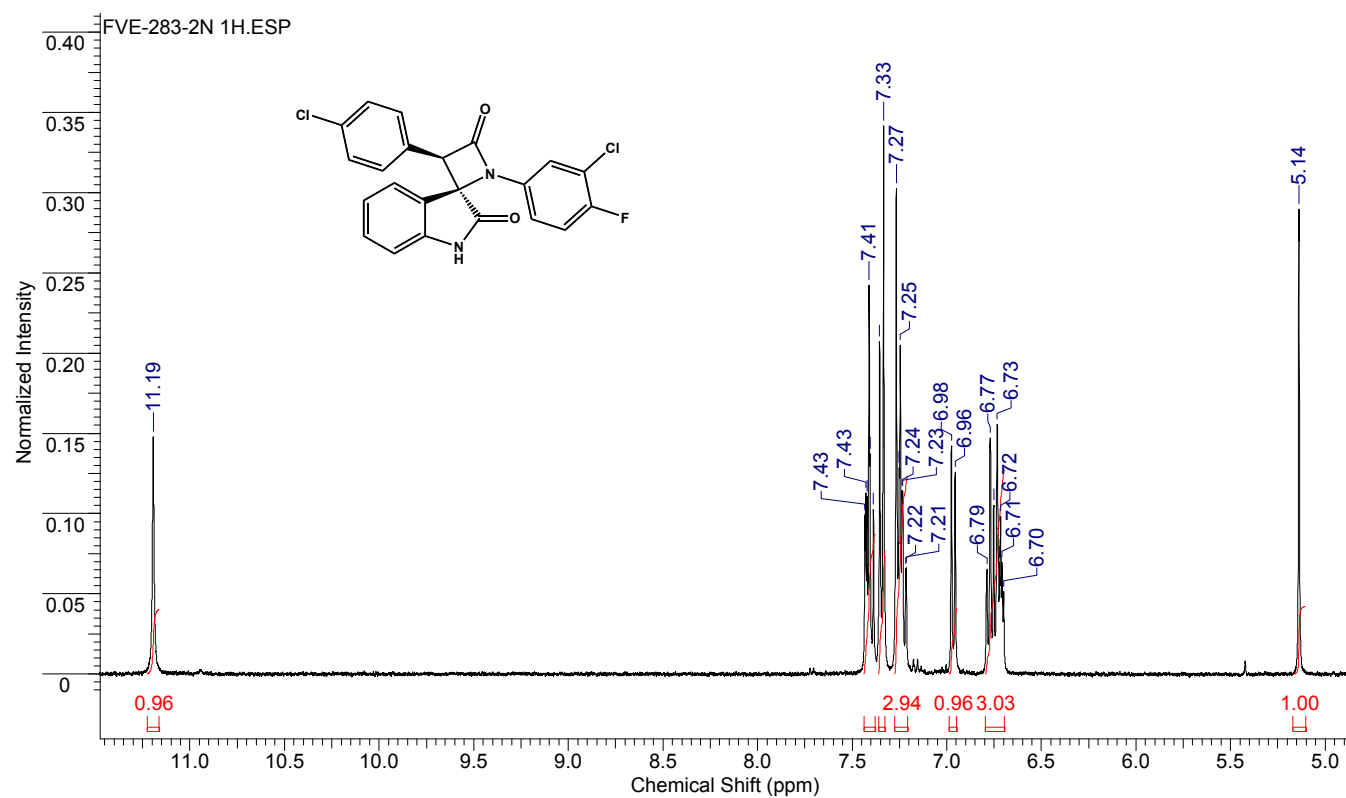


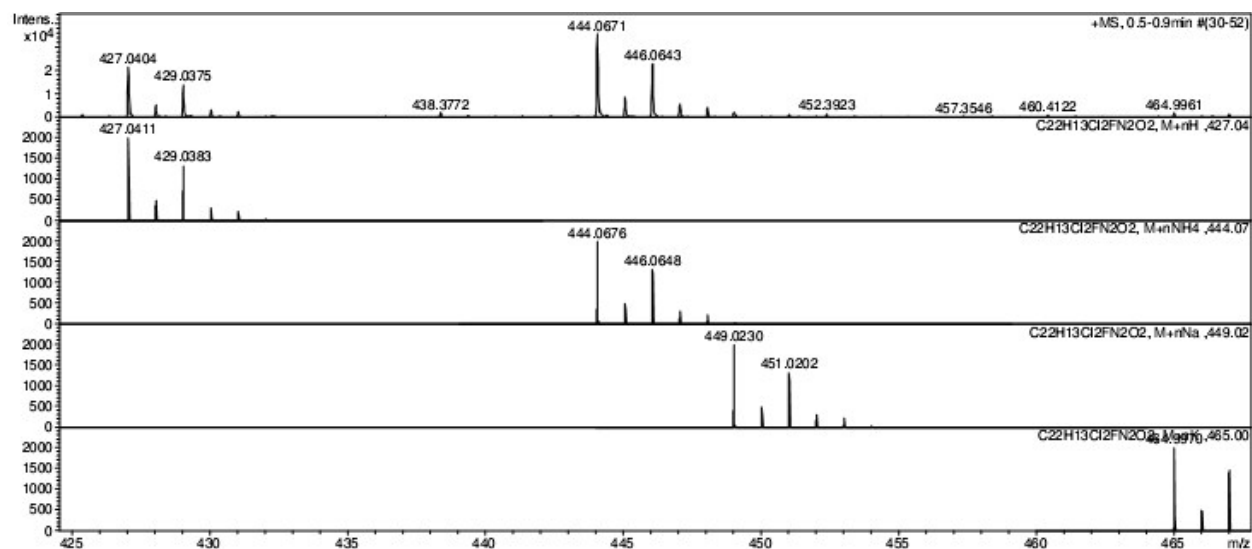
26b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(4-ethoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

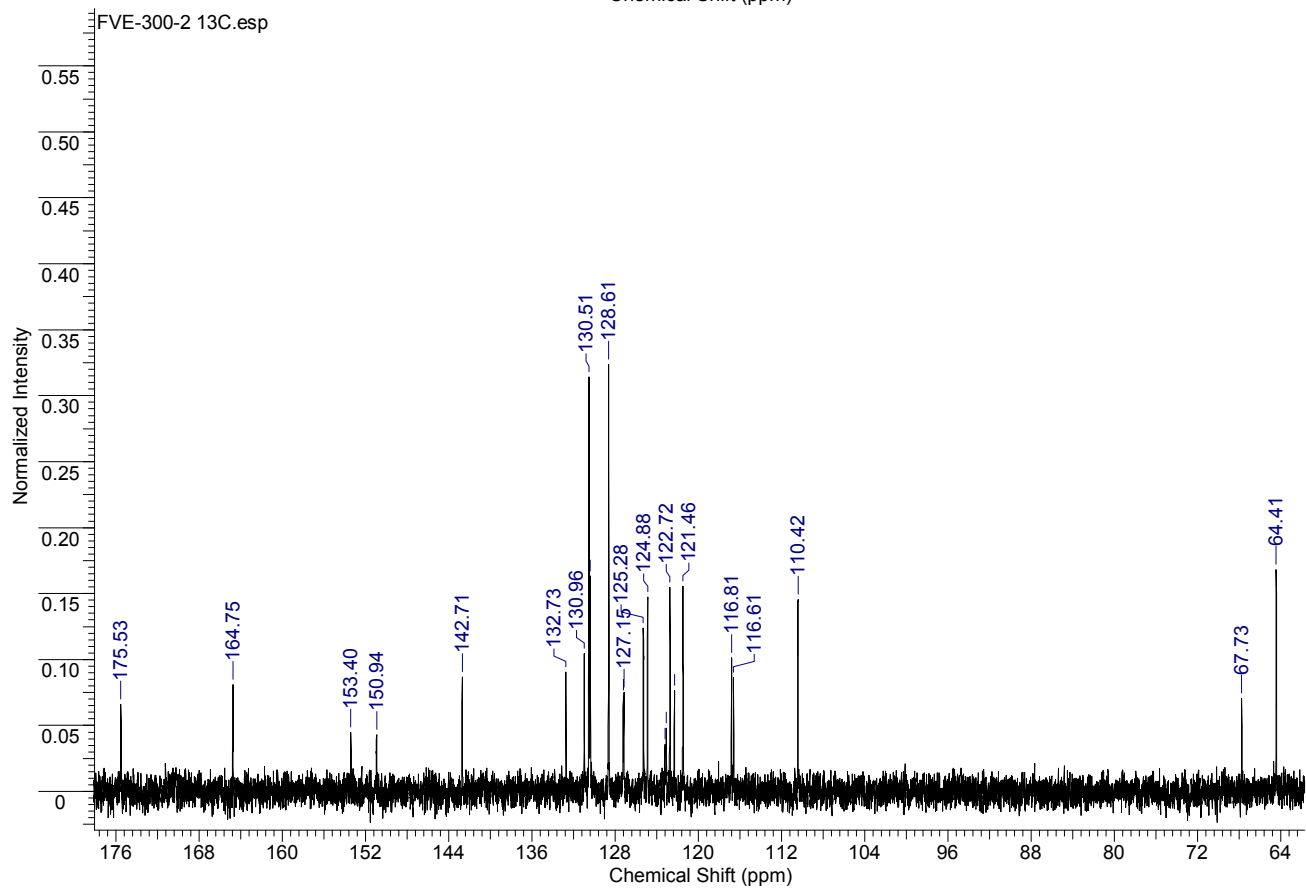
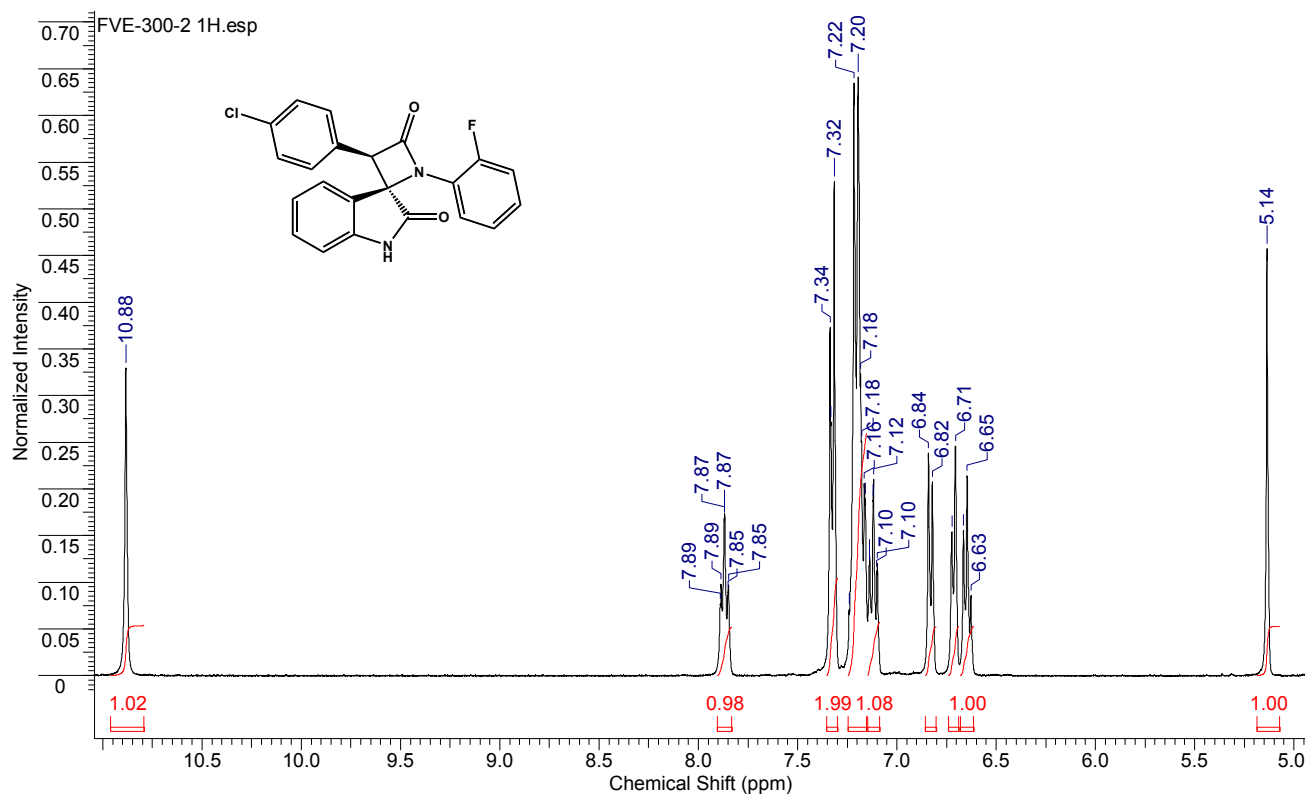


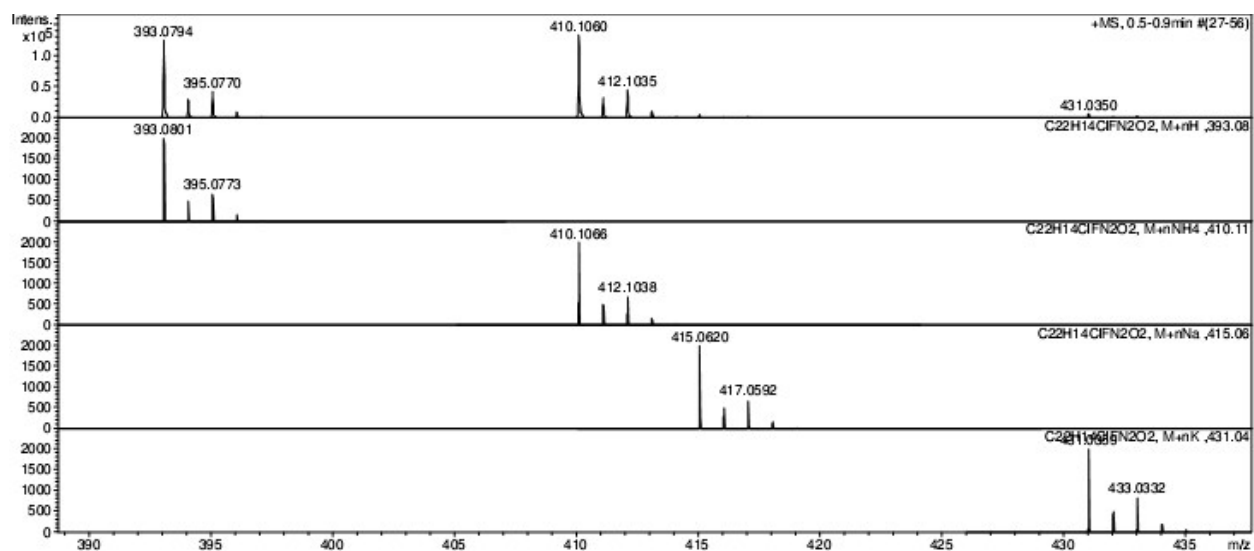
27a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(3-chloro-4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

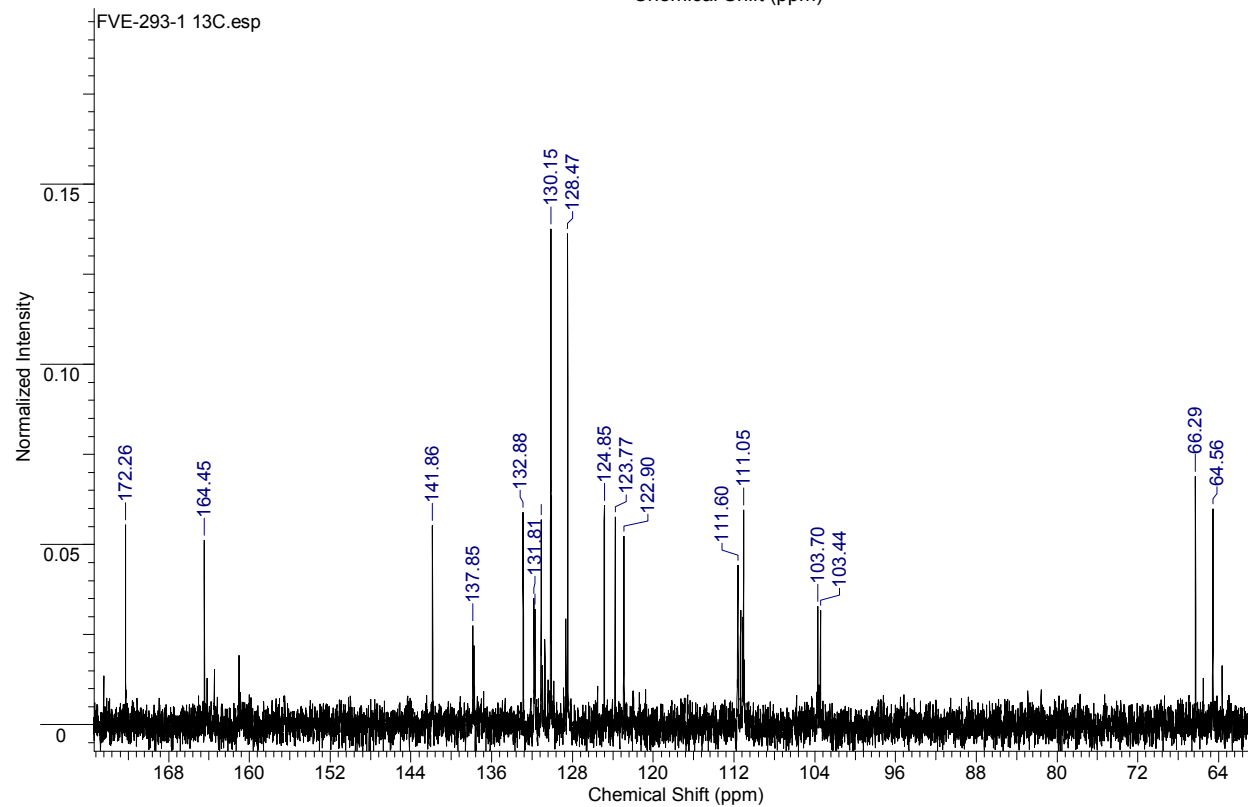
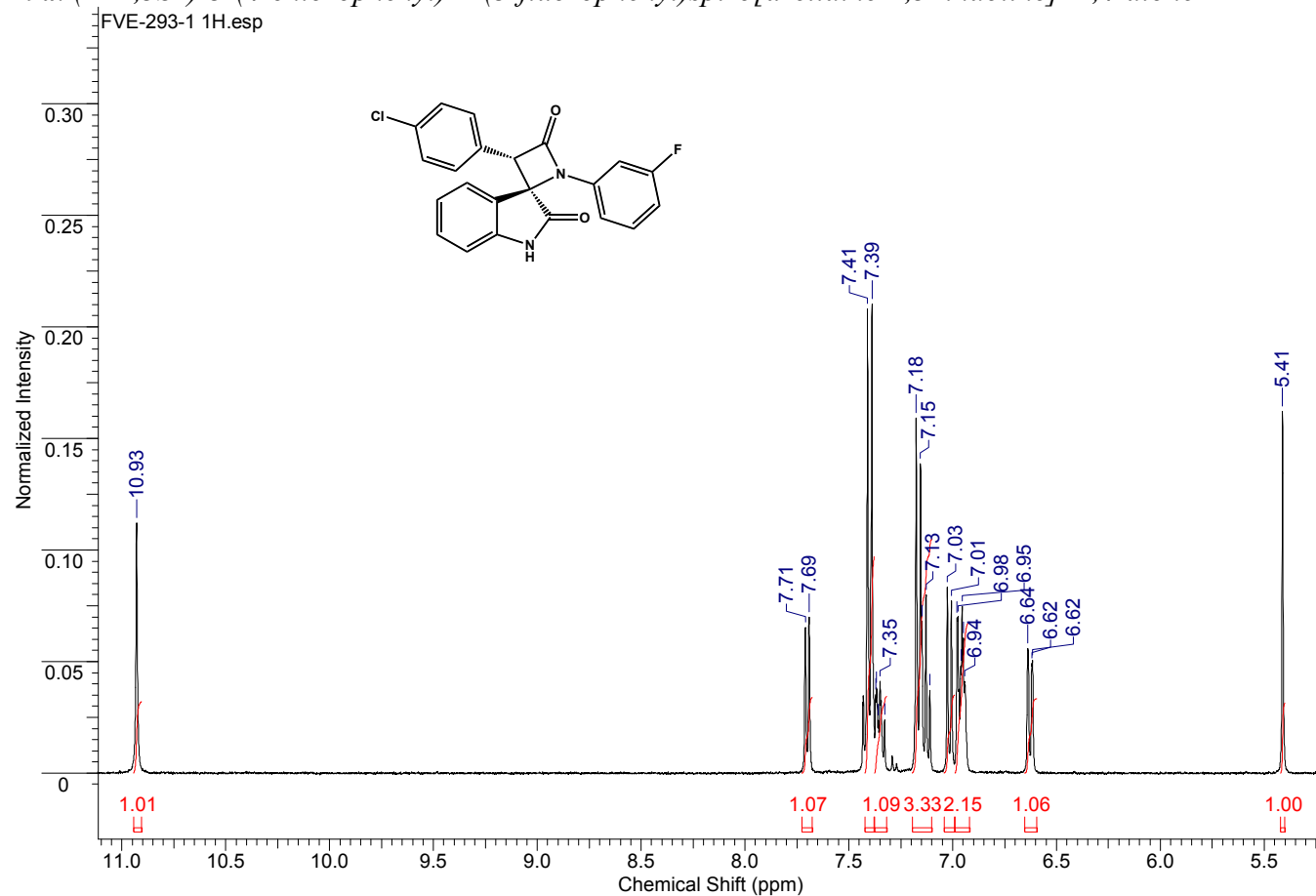


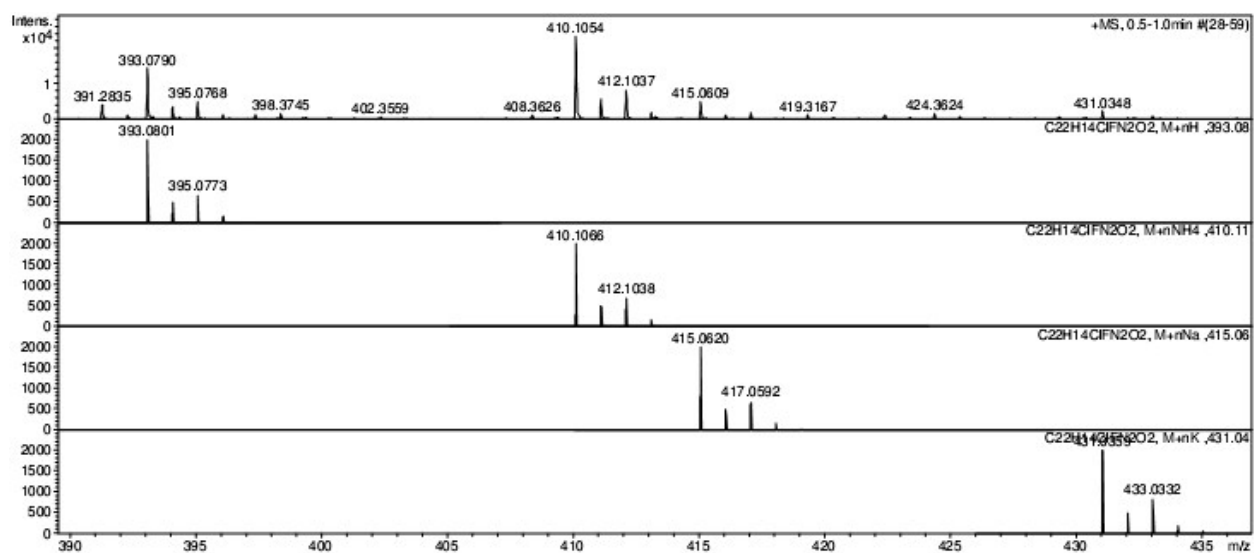
27b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(3-chloro-4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

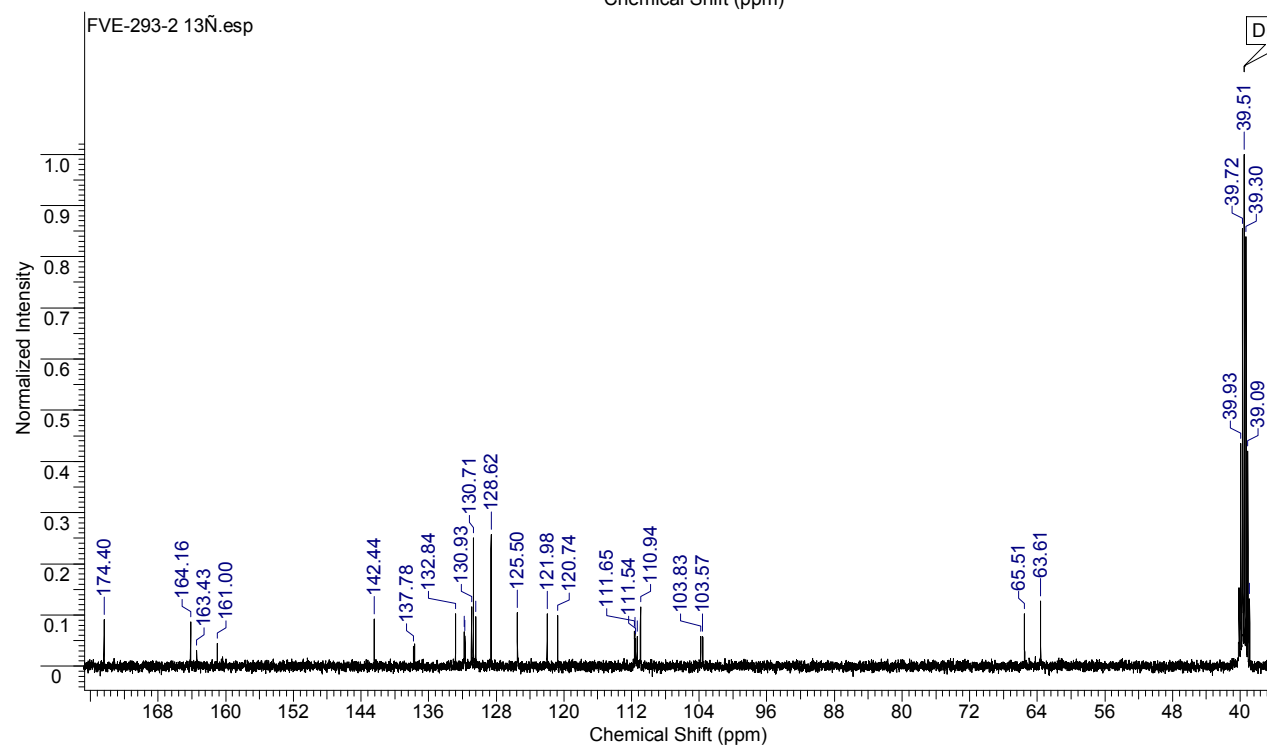
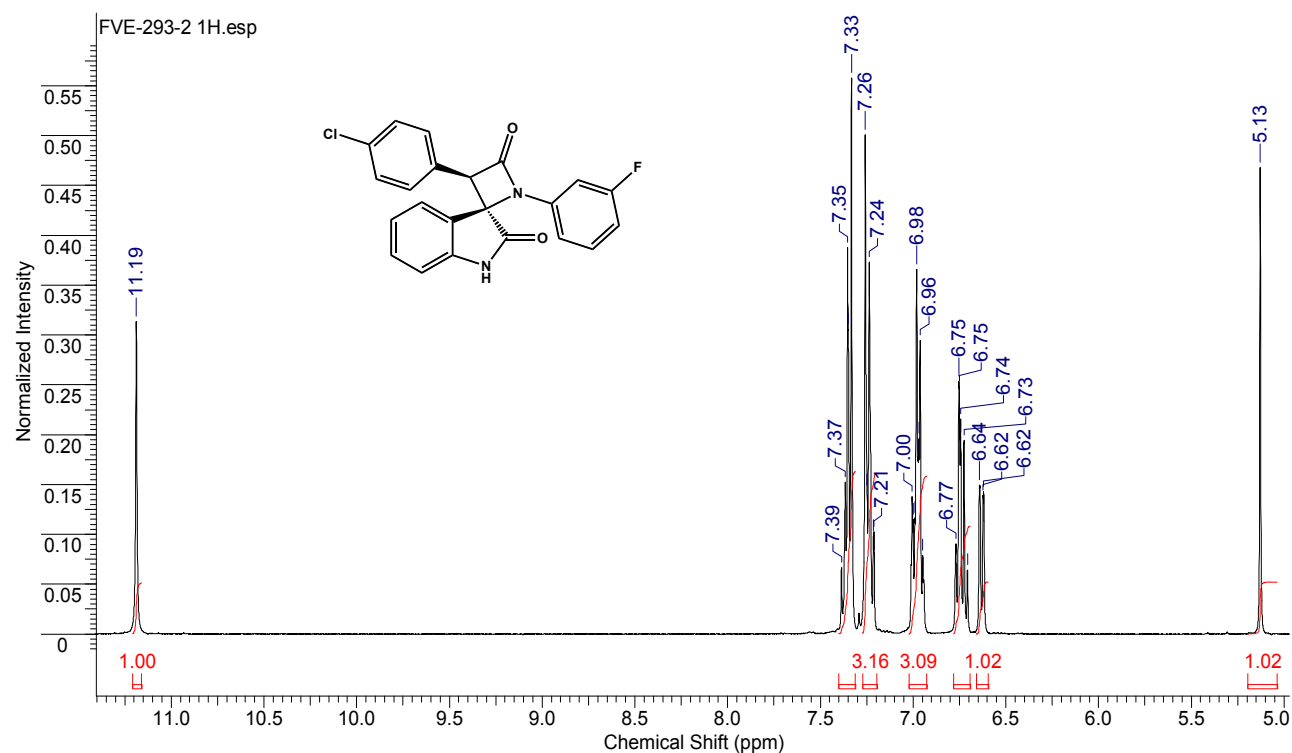


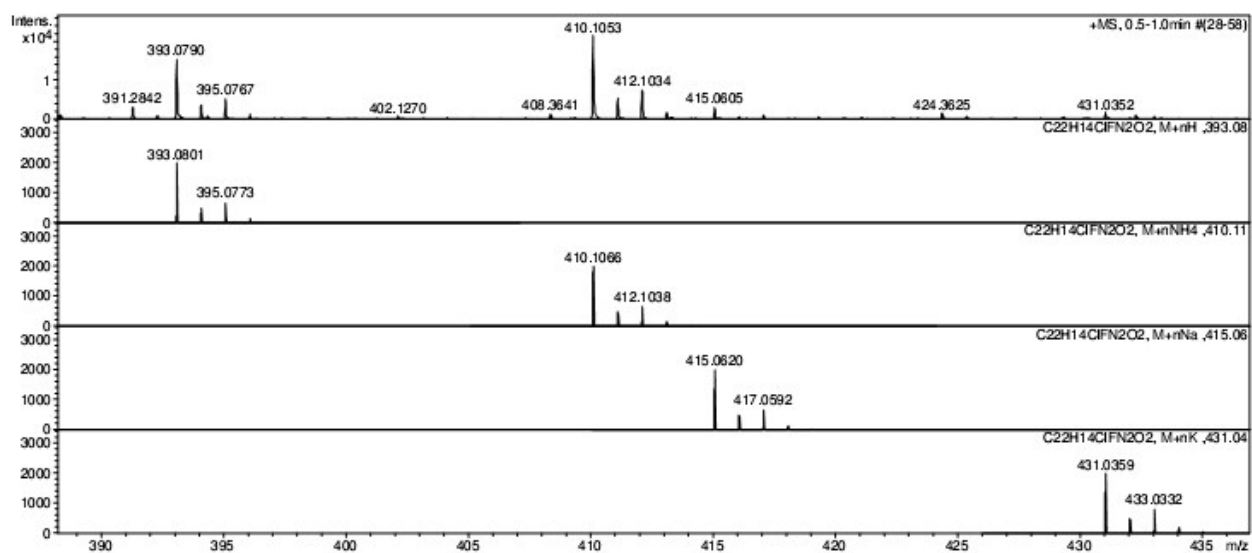
28b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(2-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

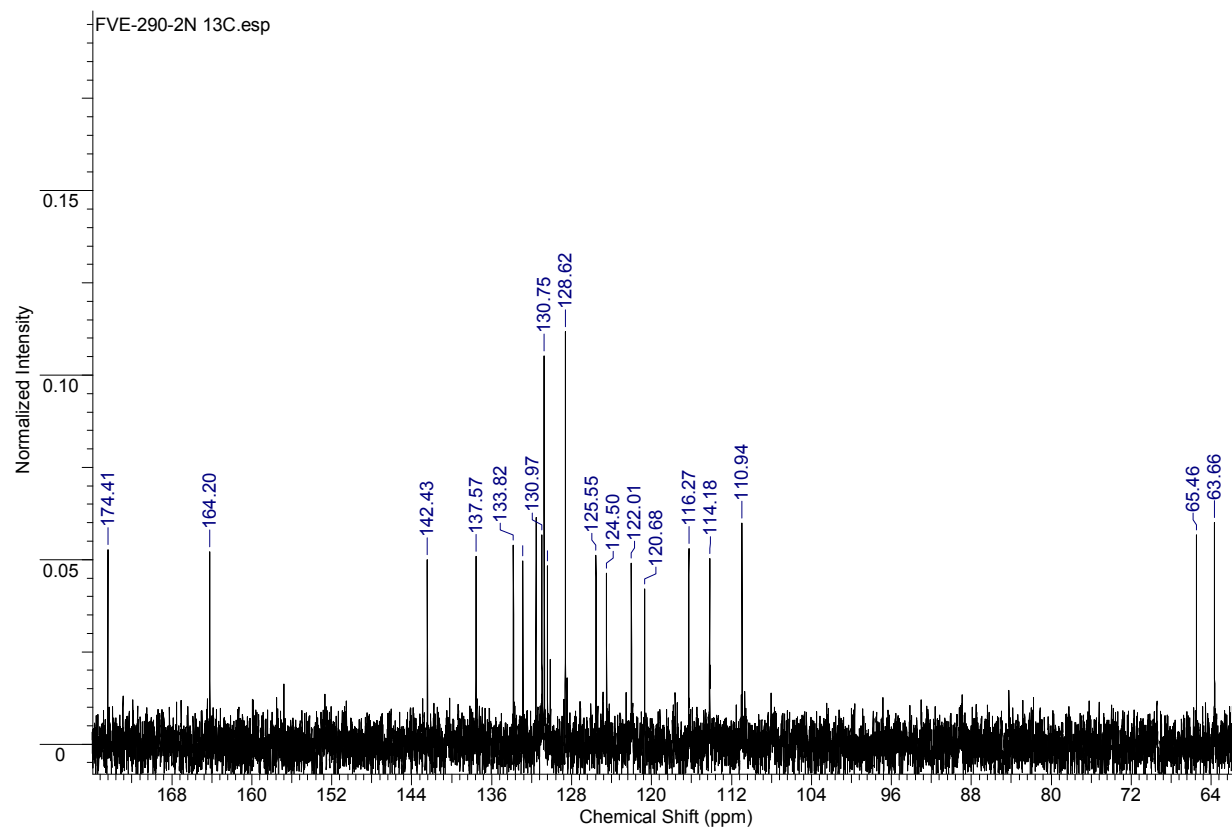
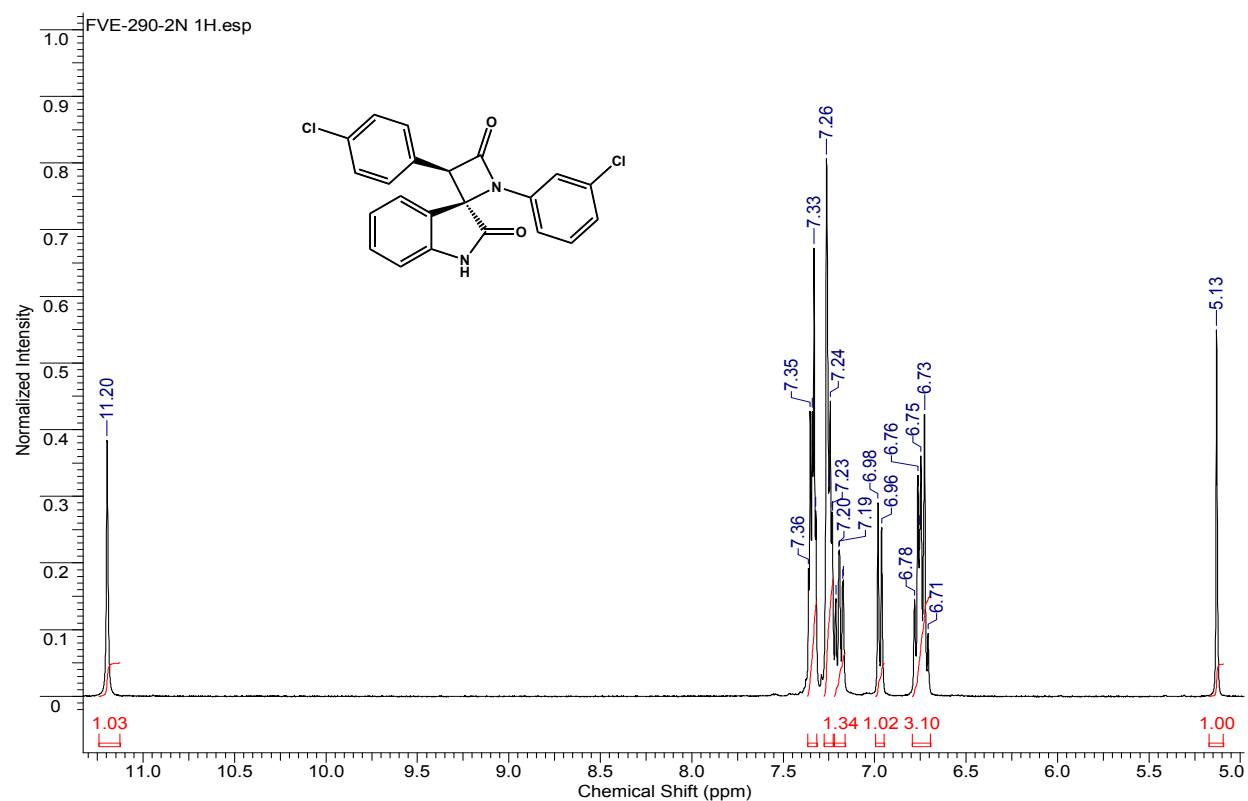


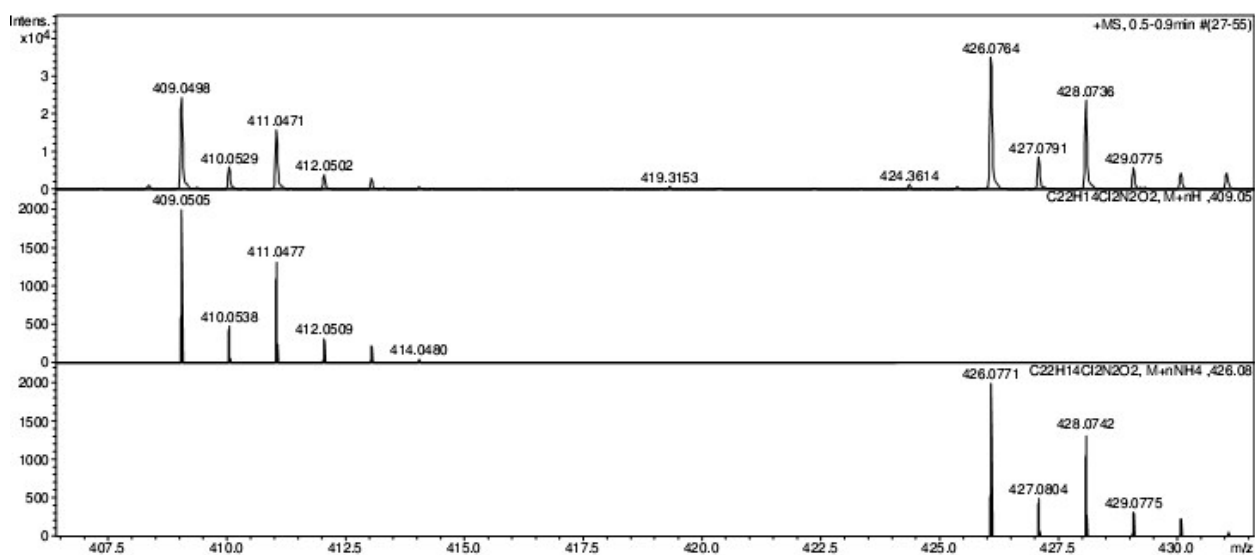
29a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(3-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

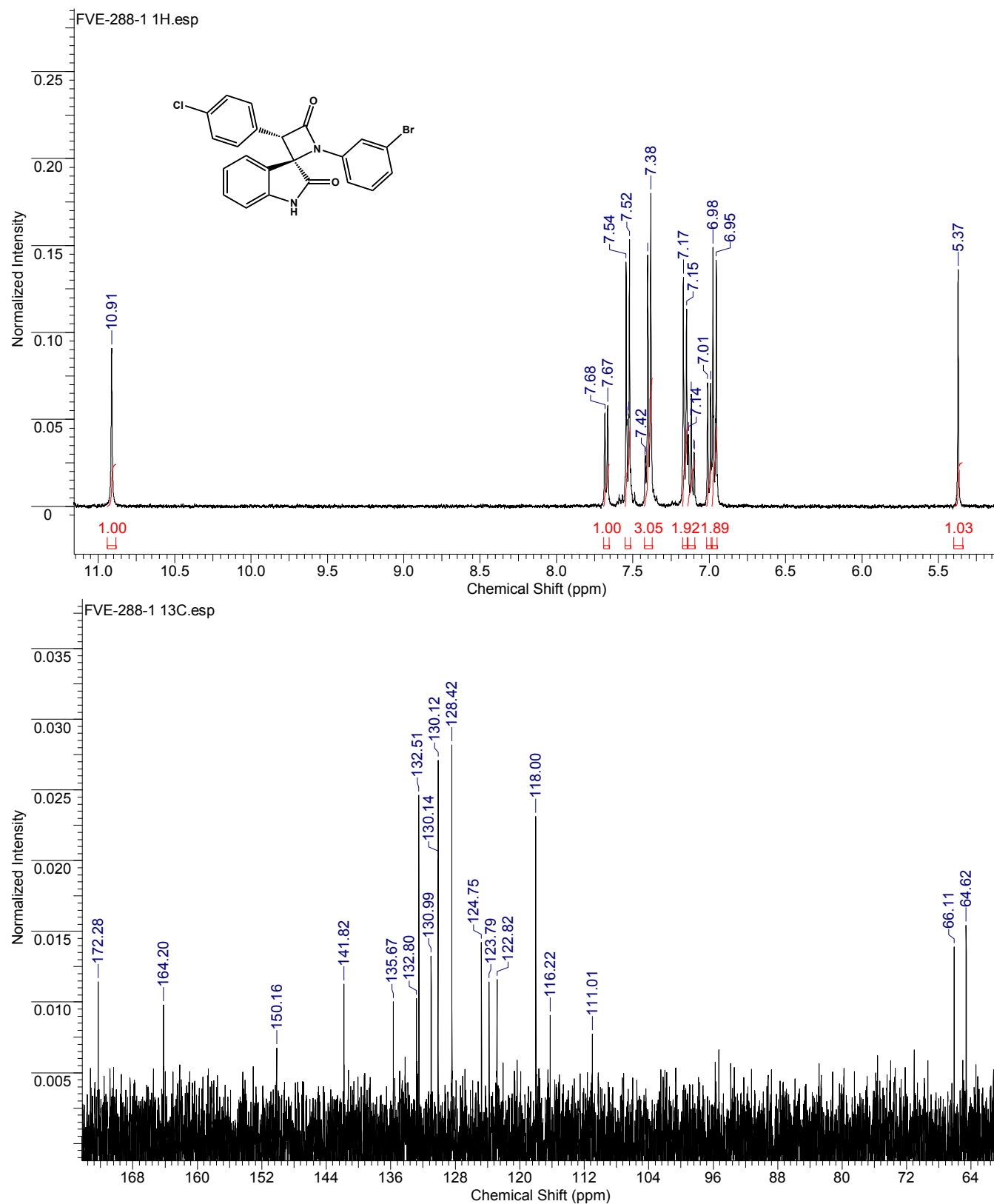


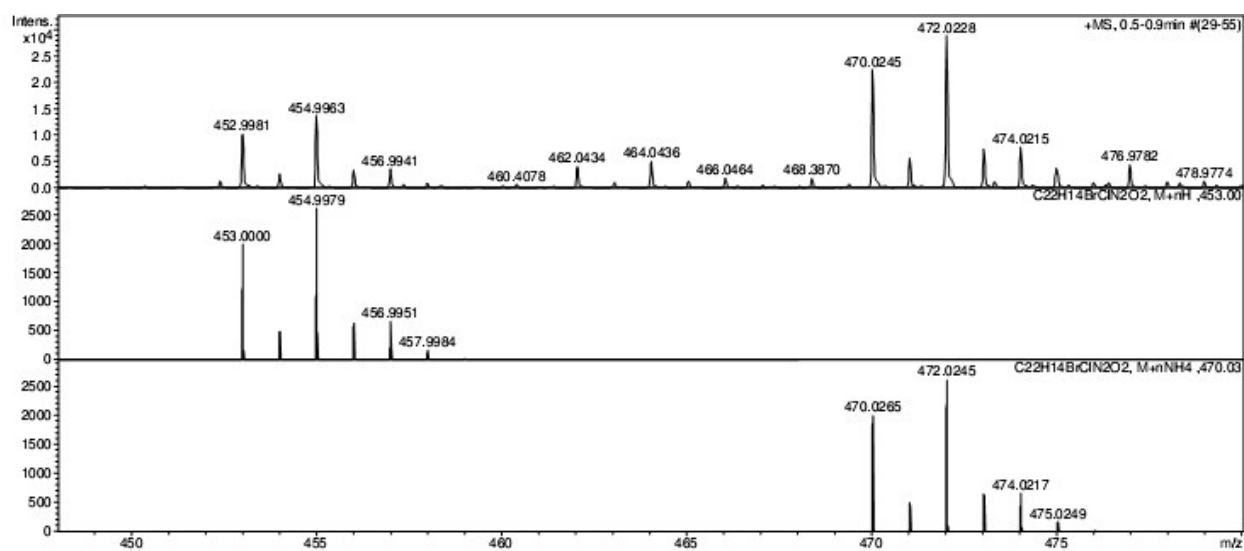
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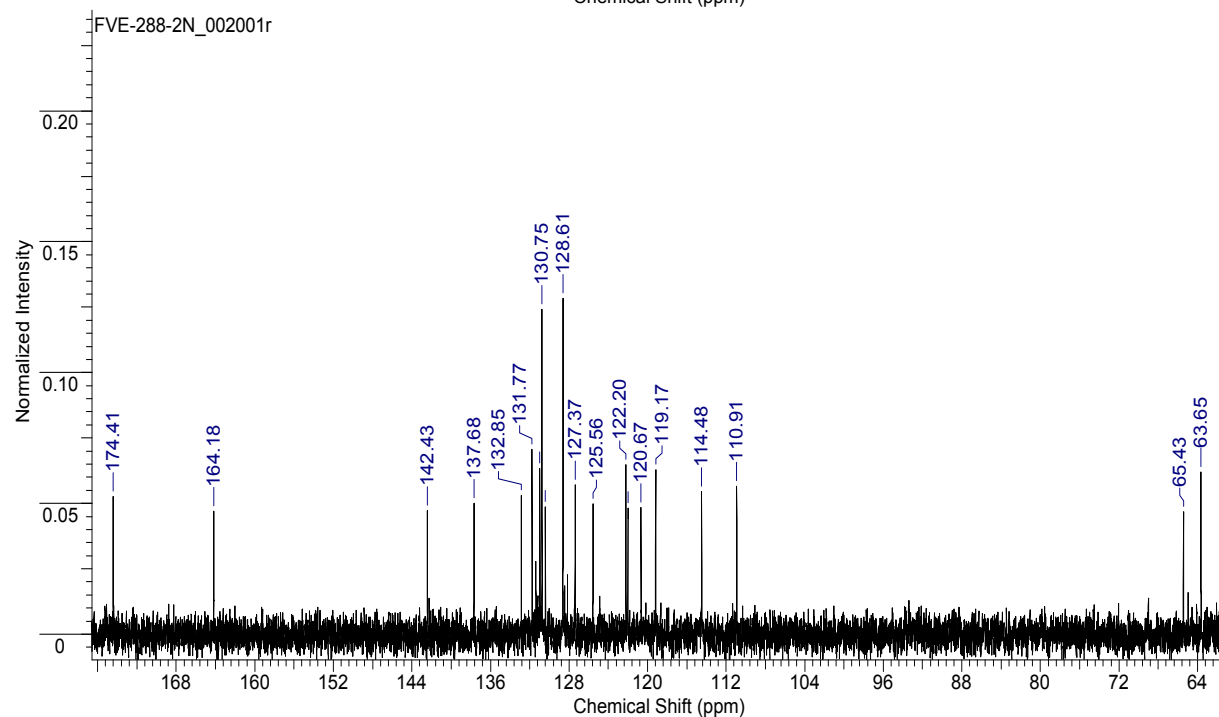
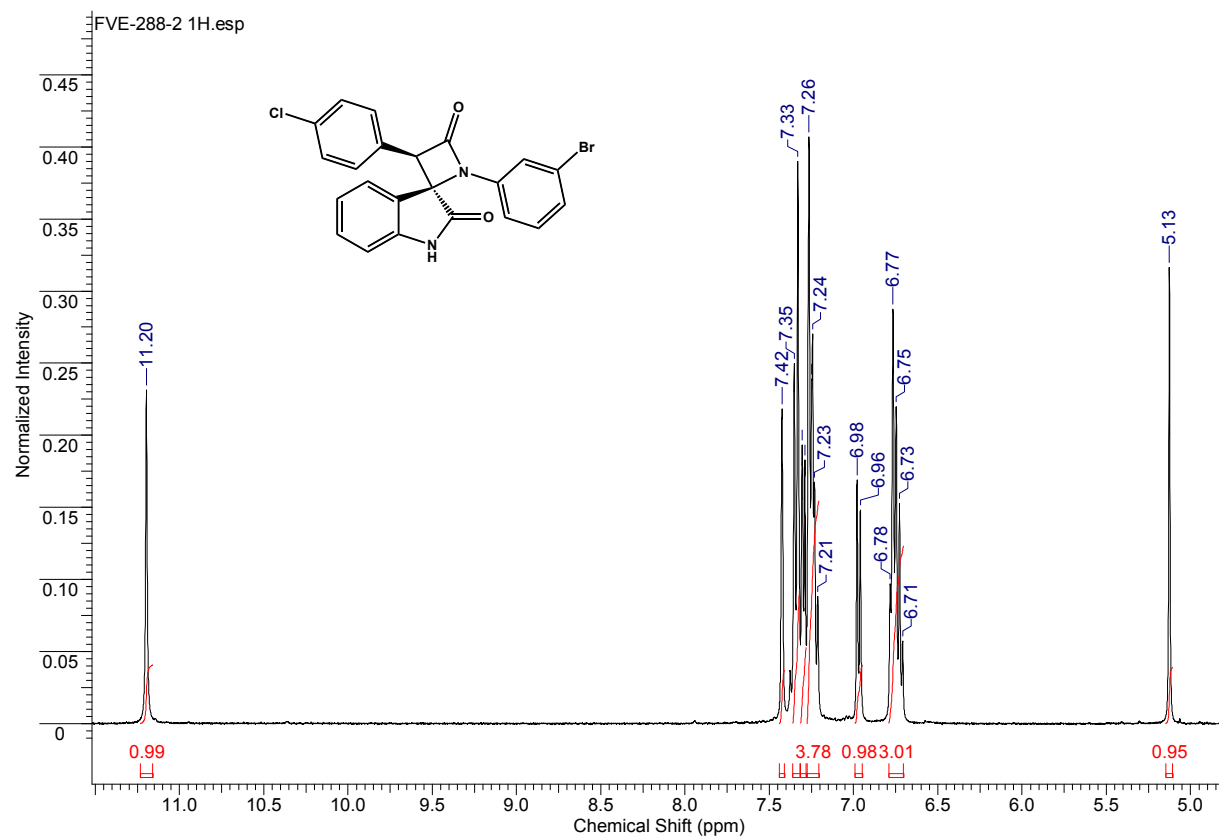


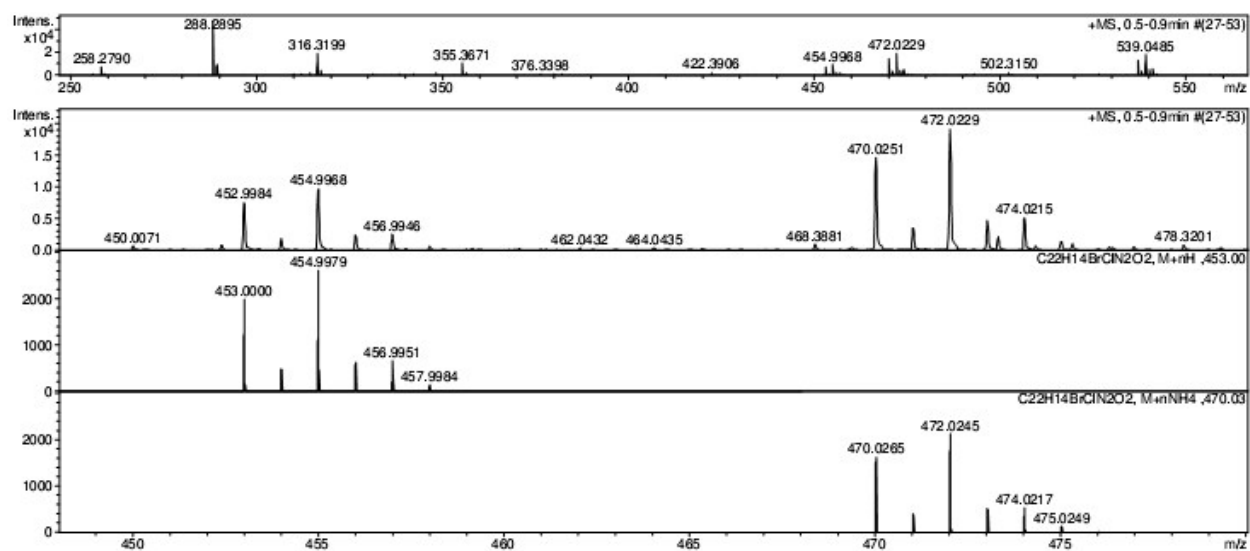
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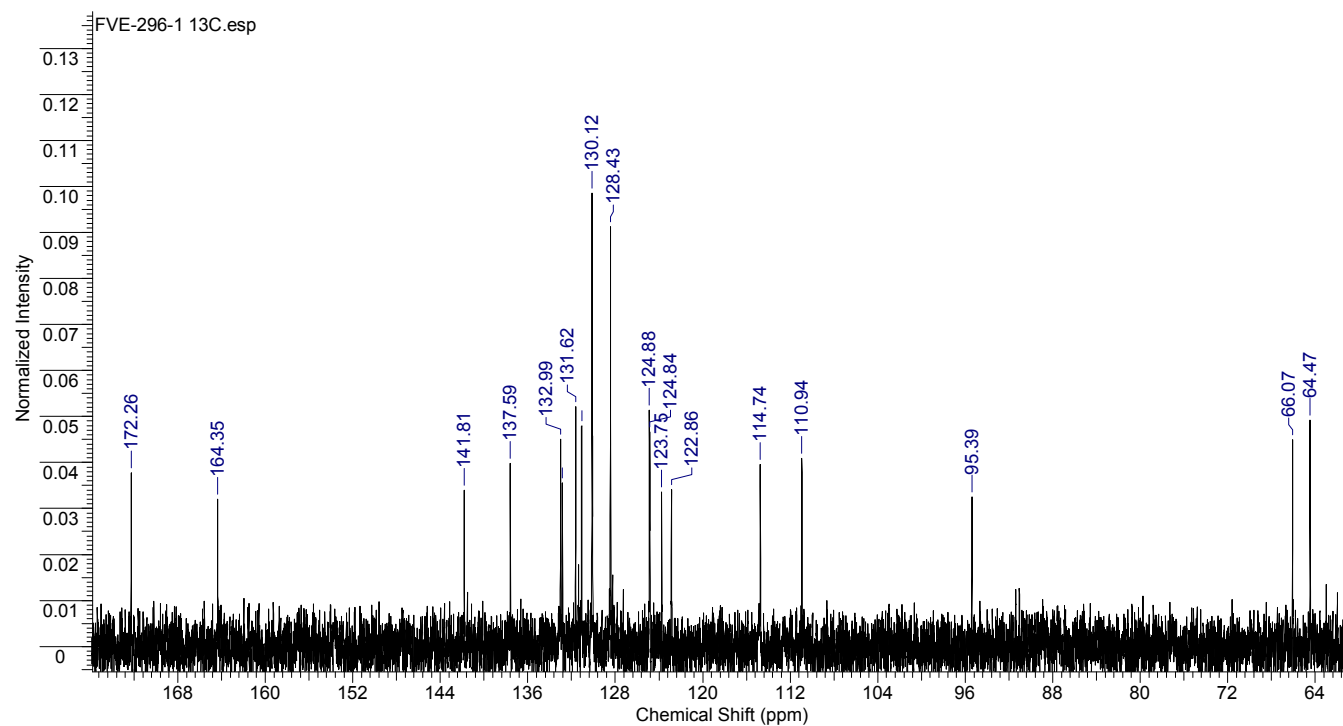
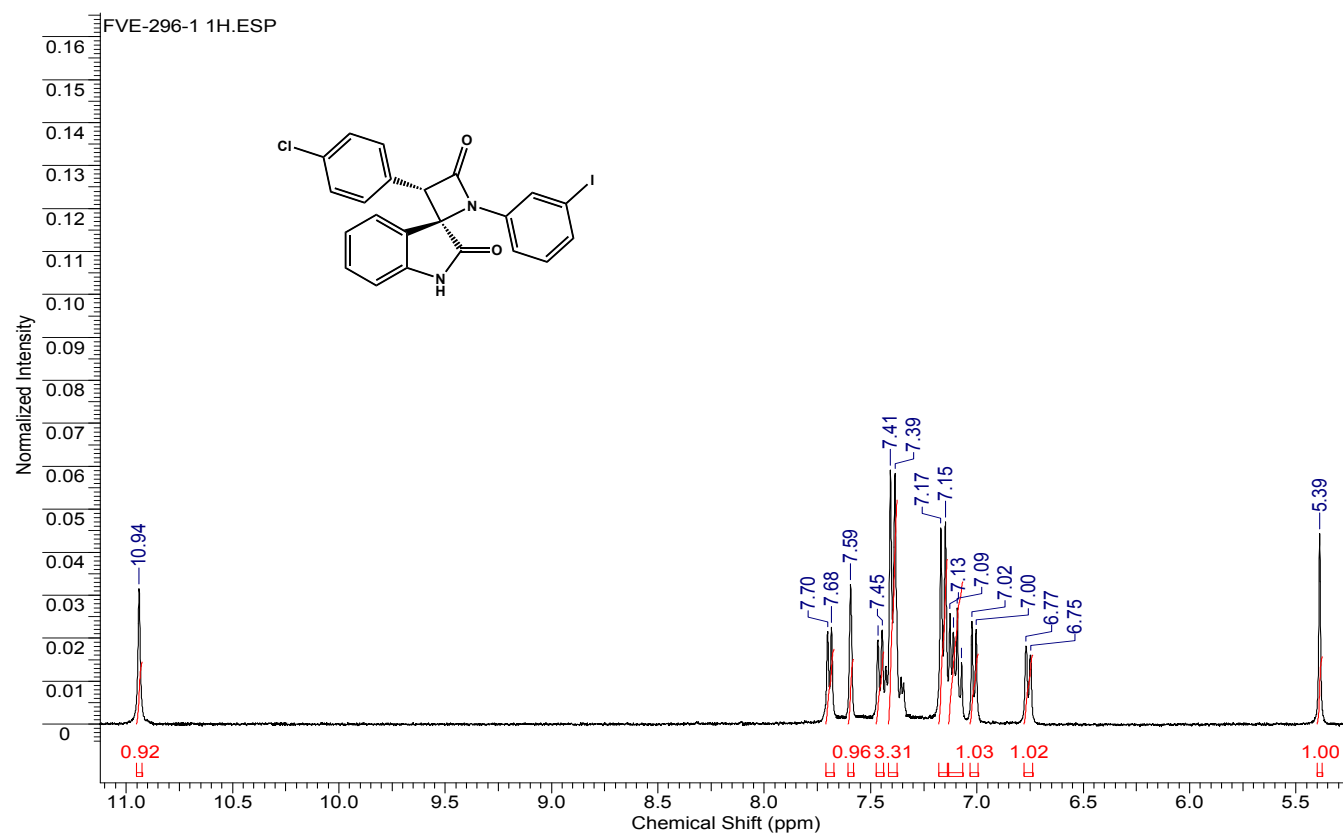


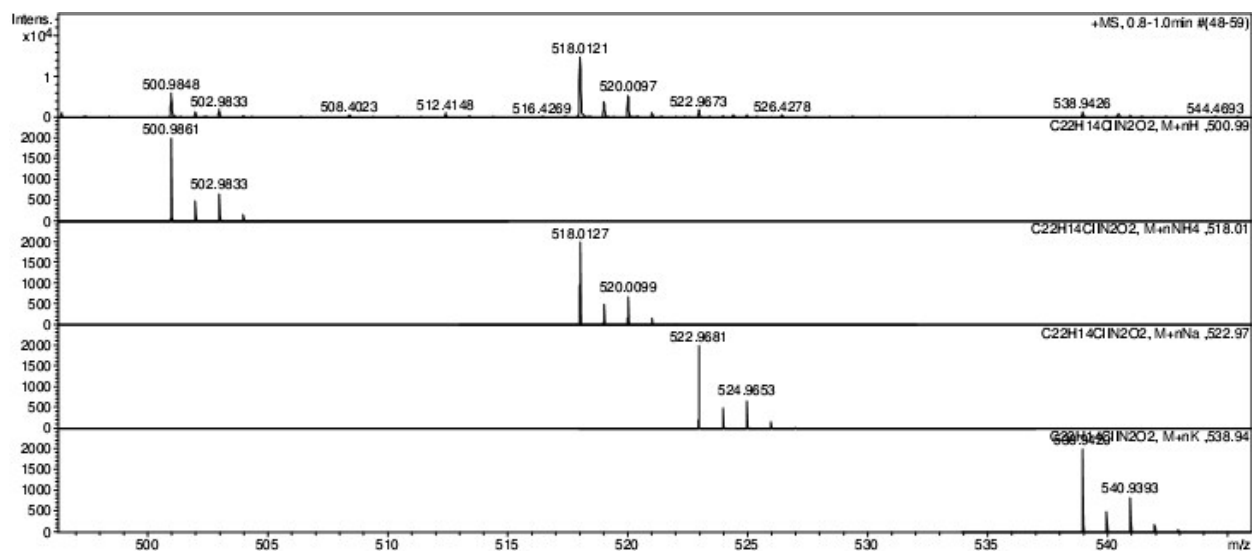
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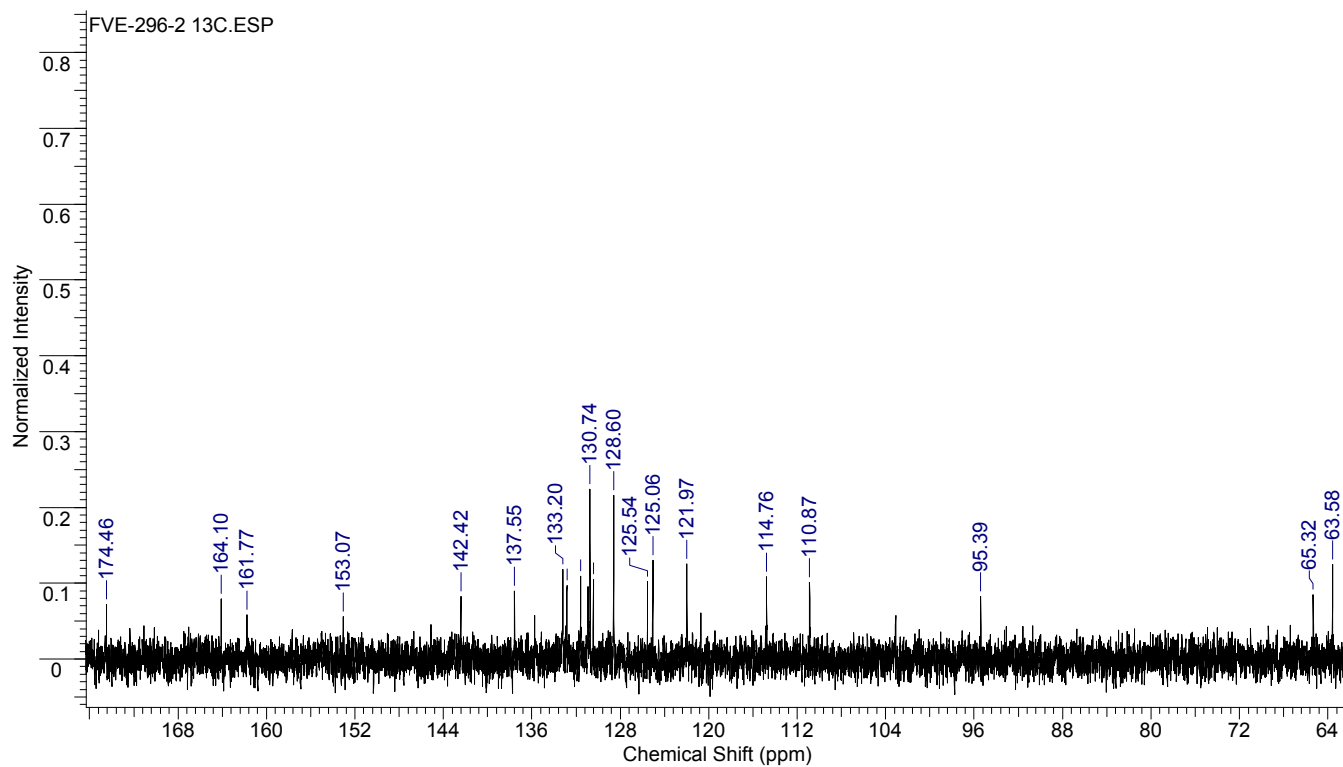
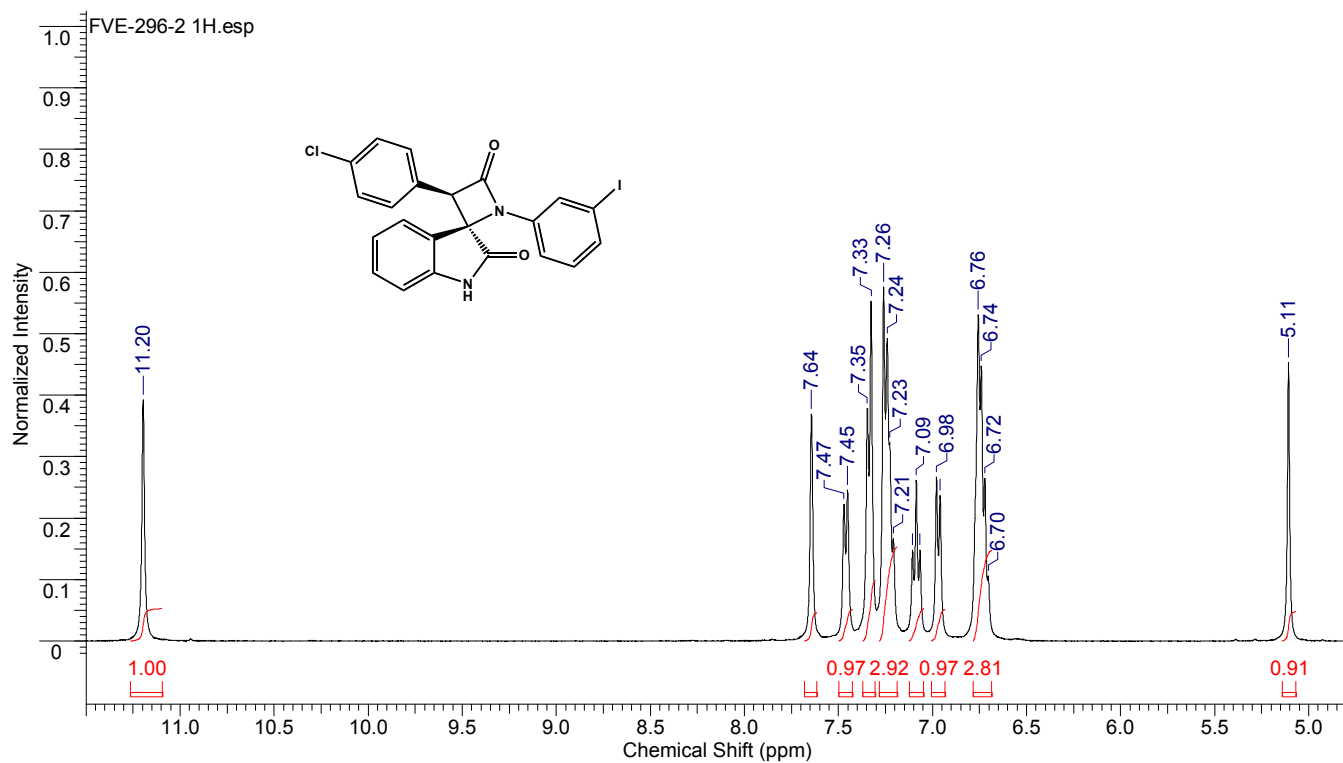


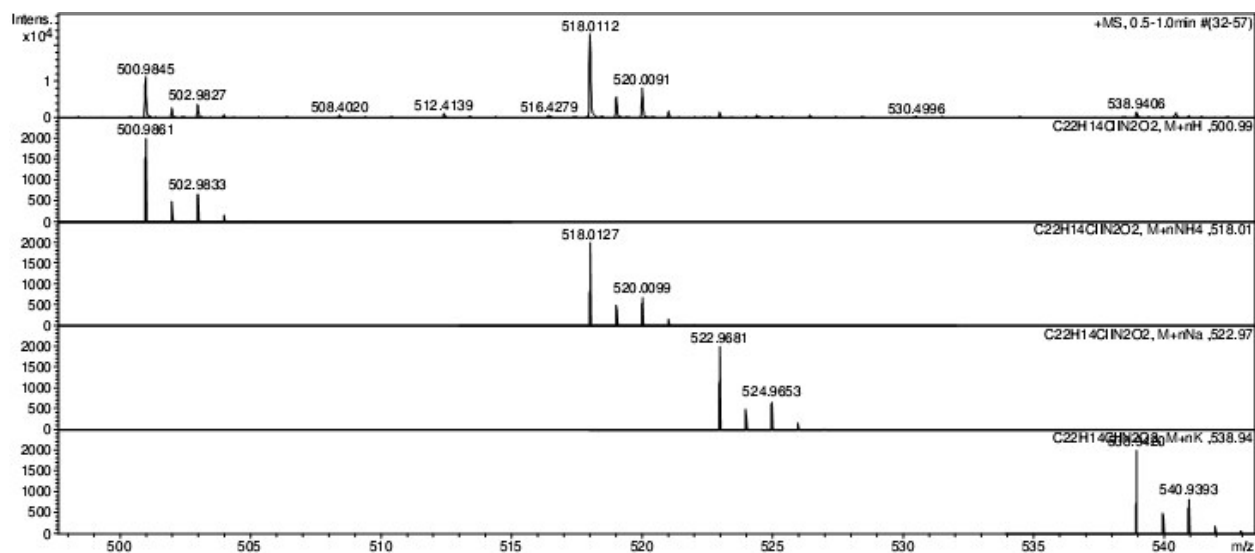
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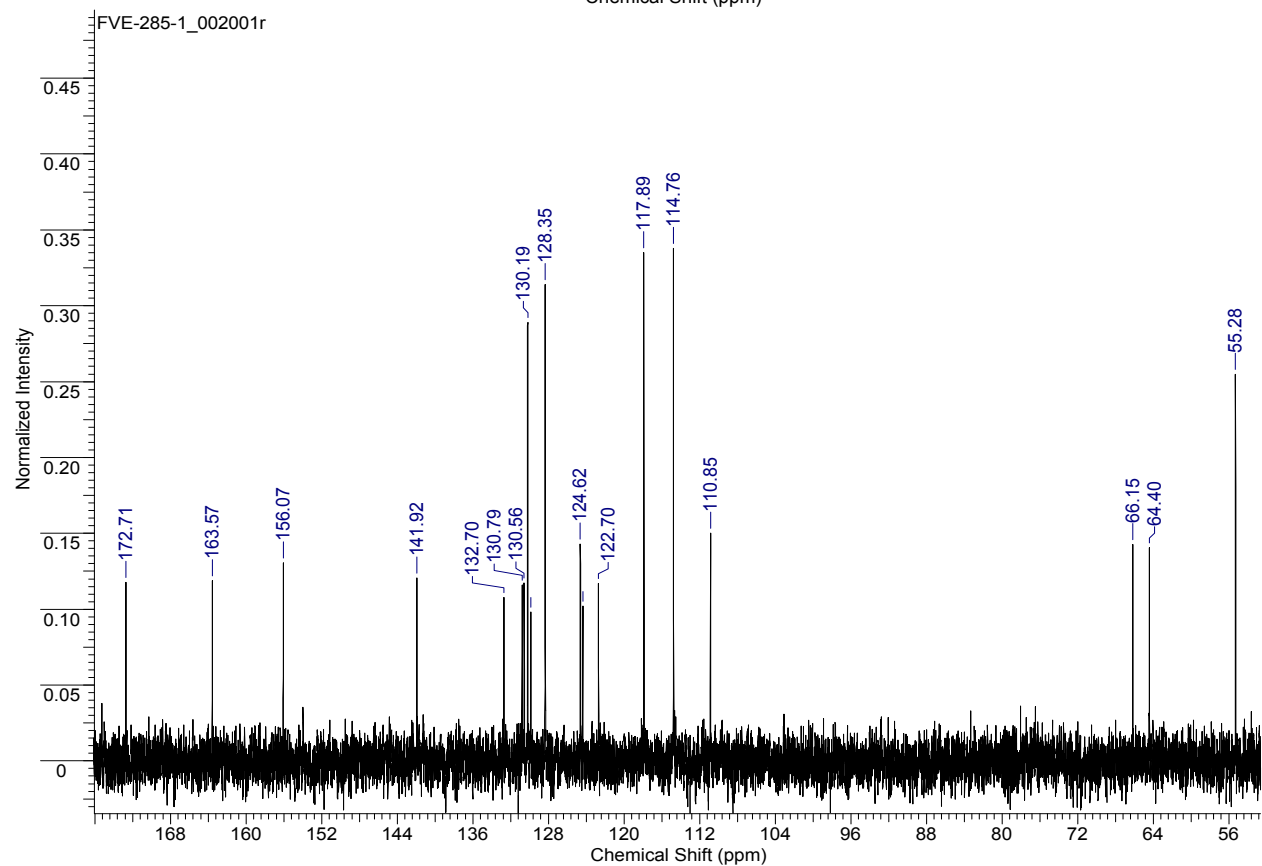
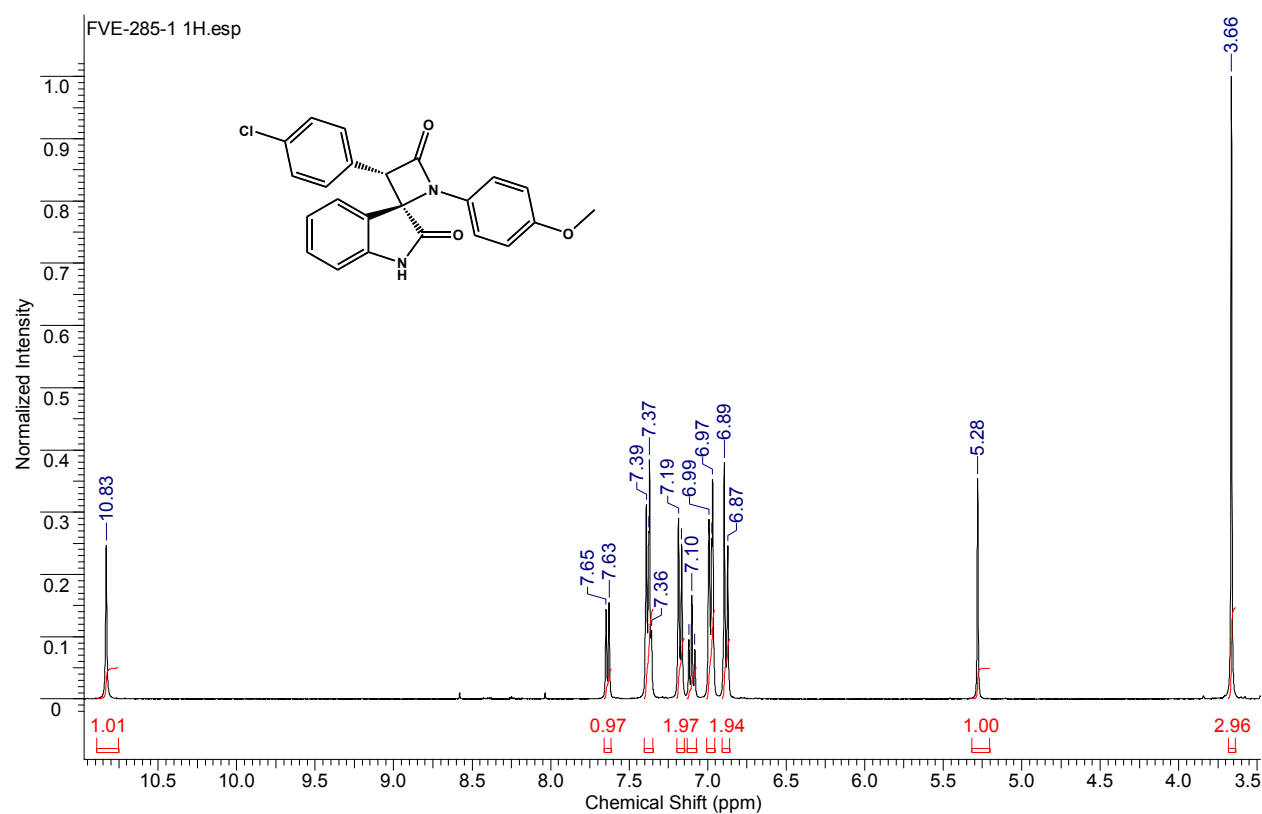


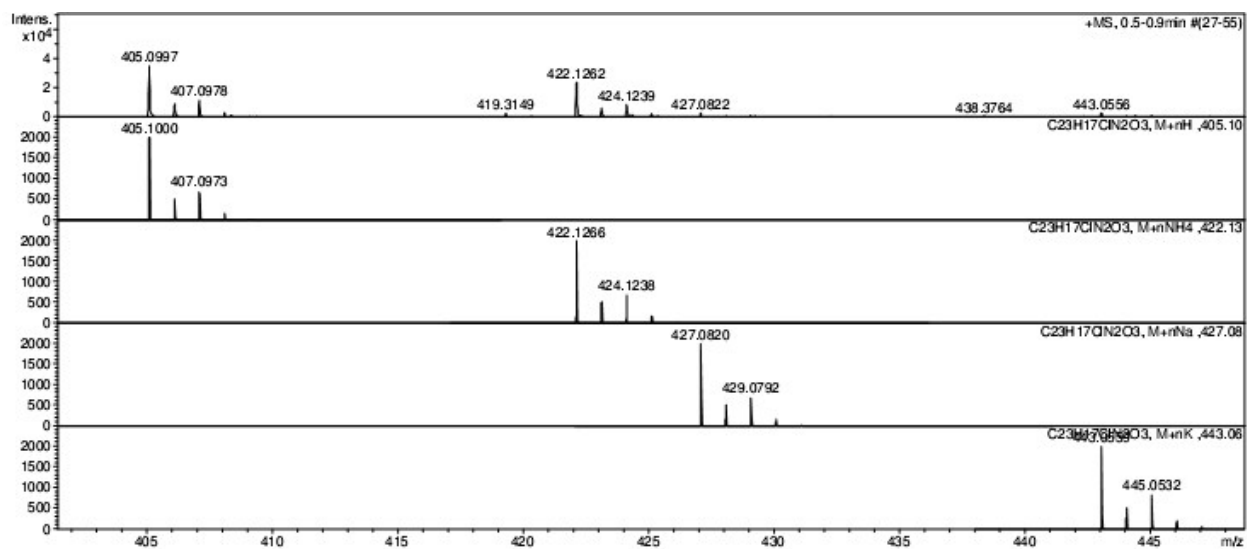
32a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(3-iodophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

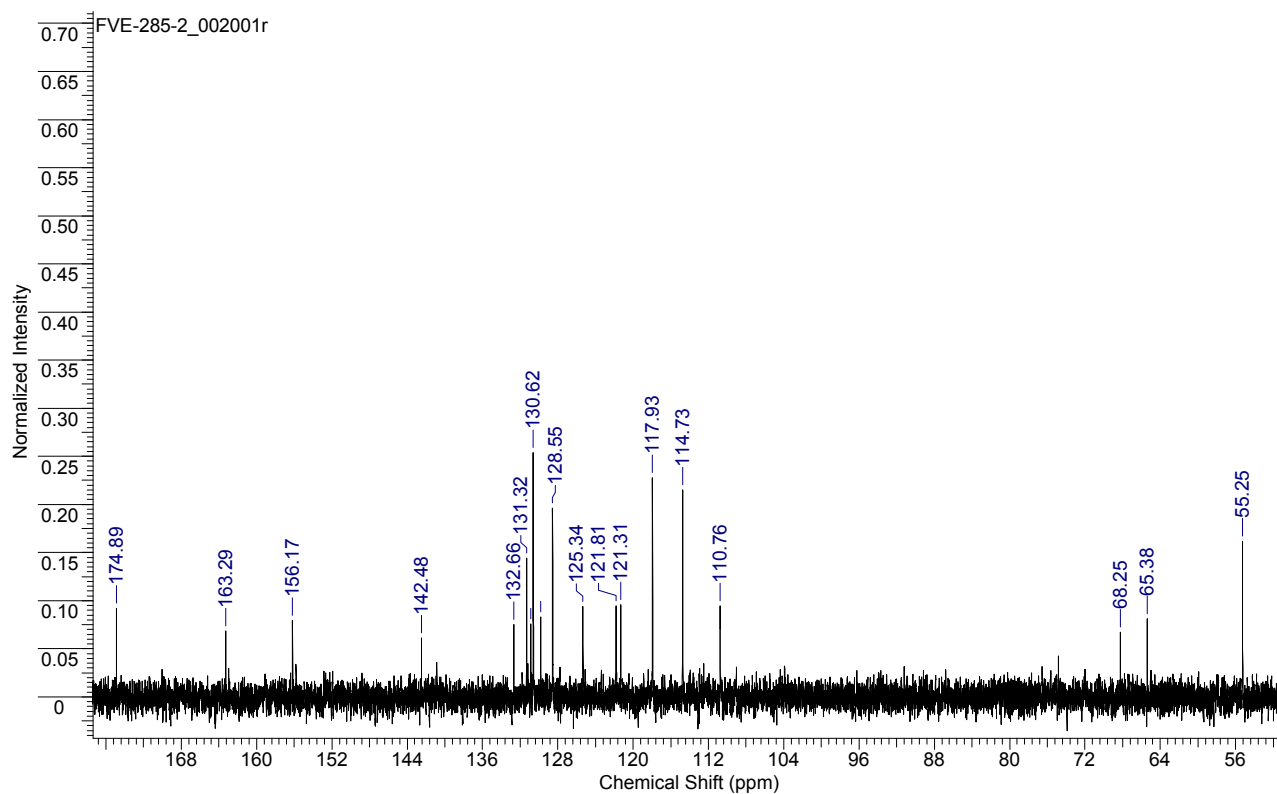
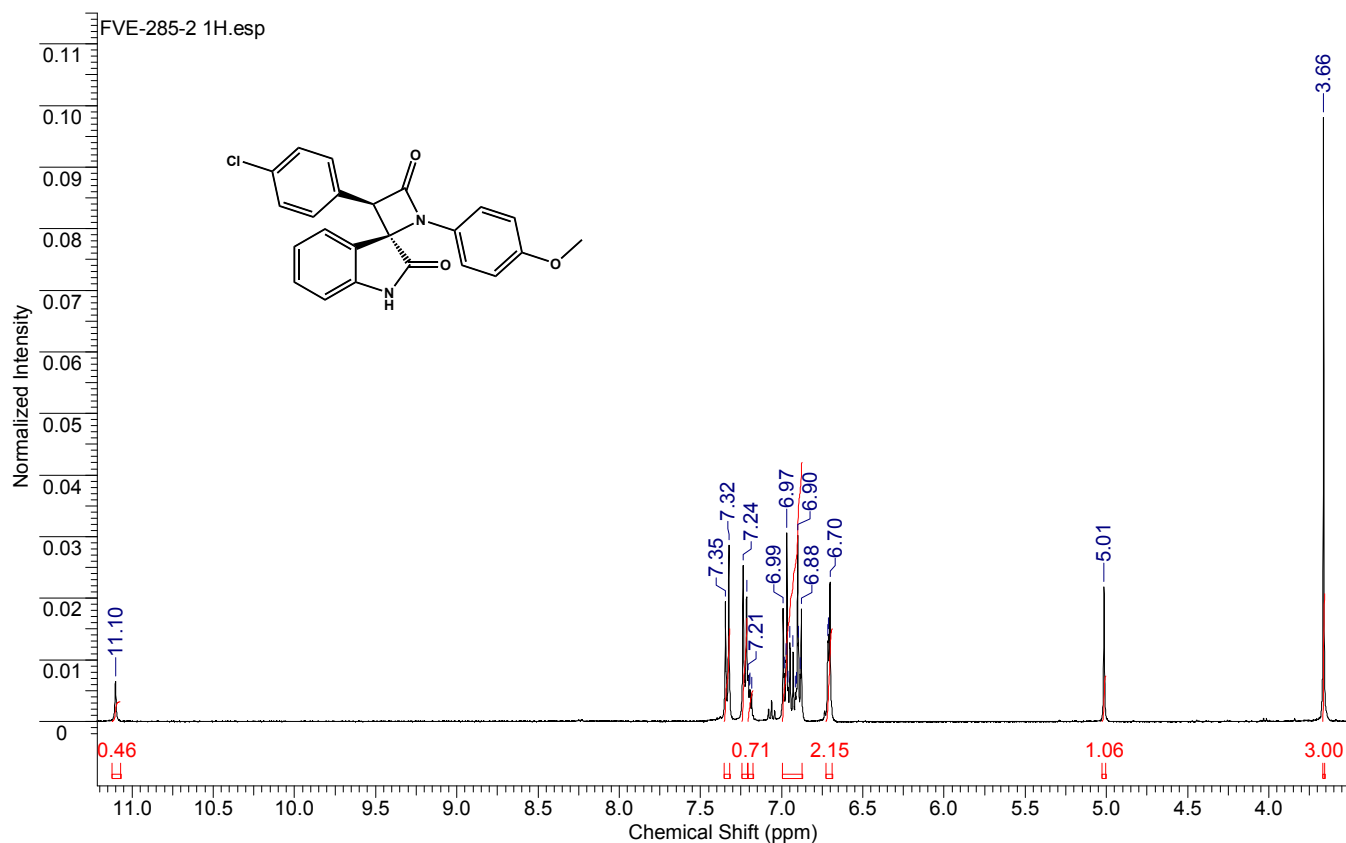


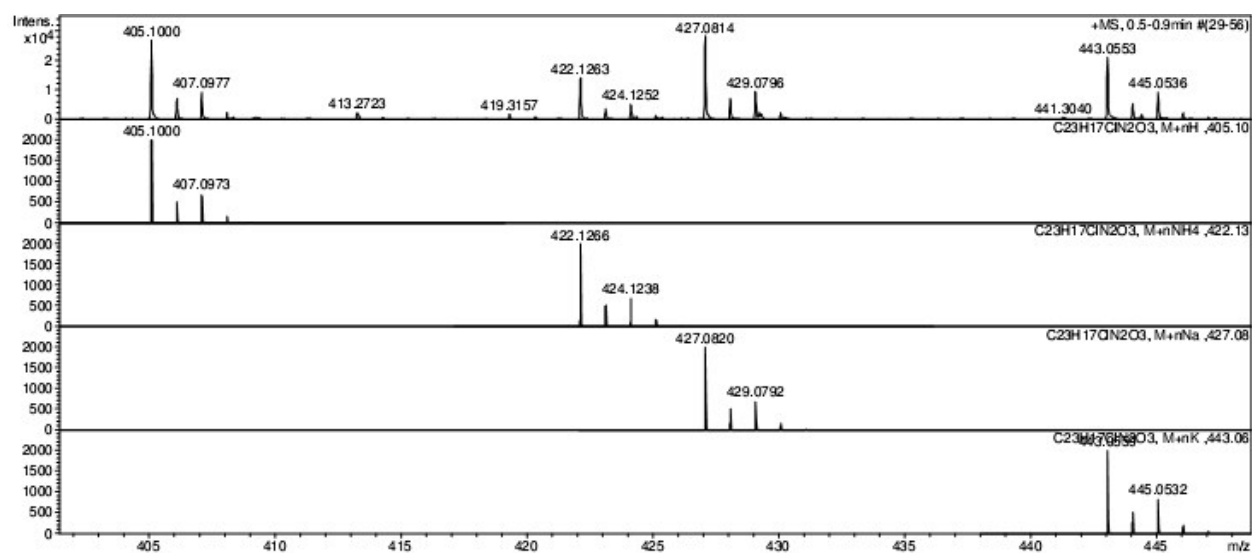
32b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(3-iodophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

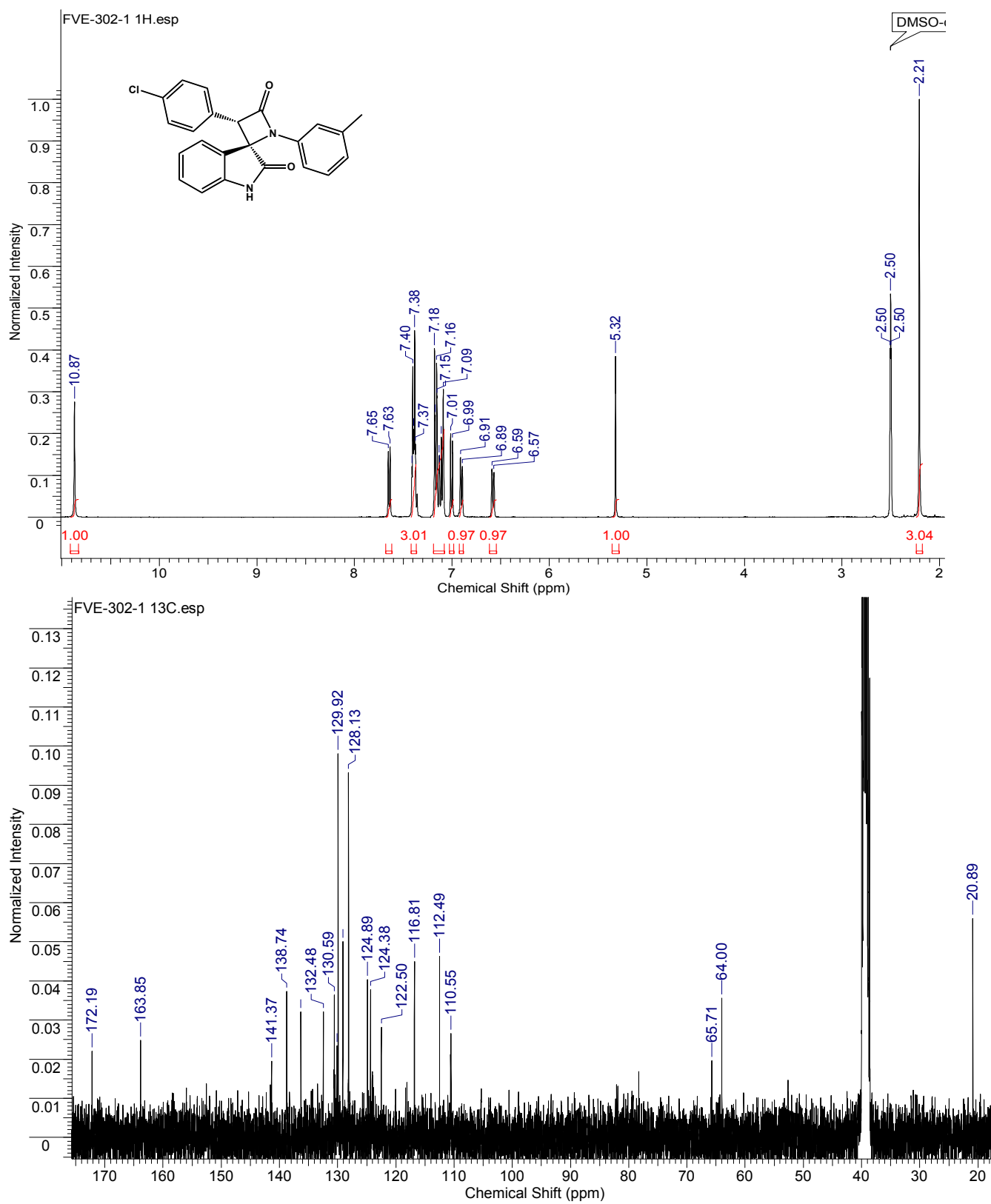


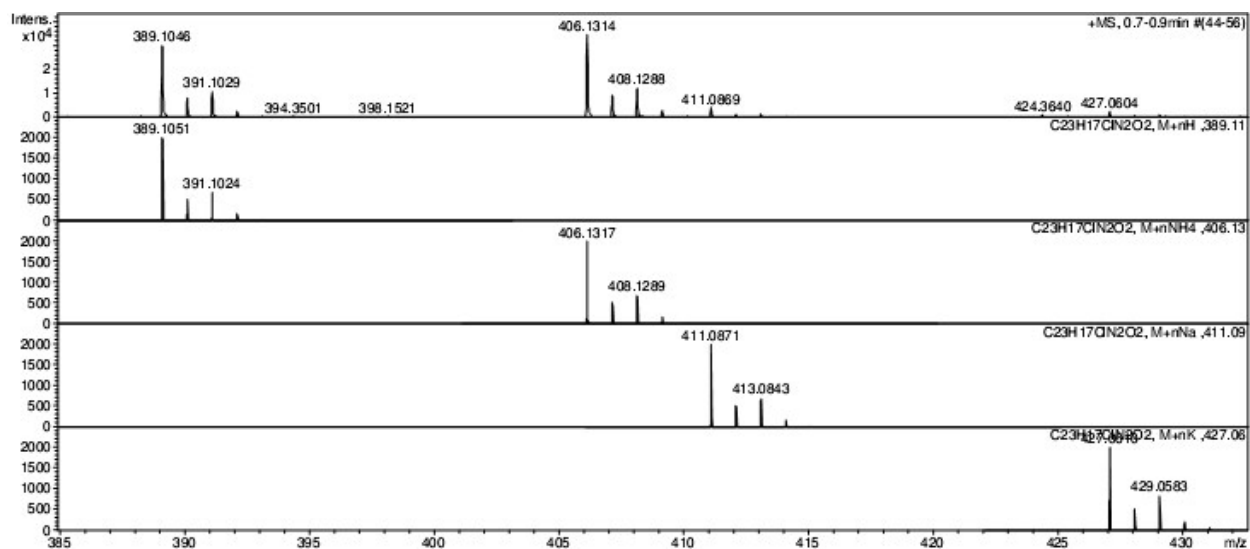
33a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(4-methoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

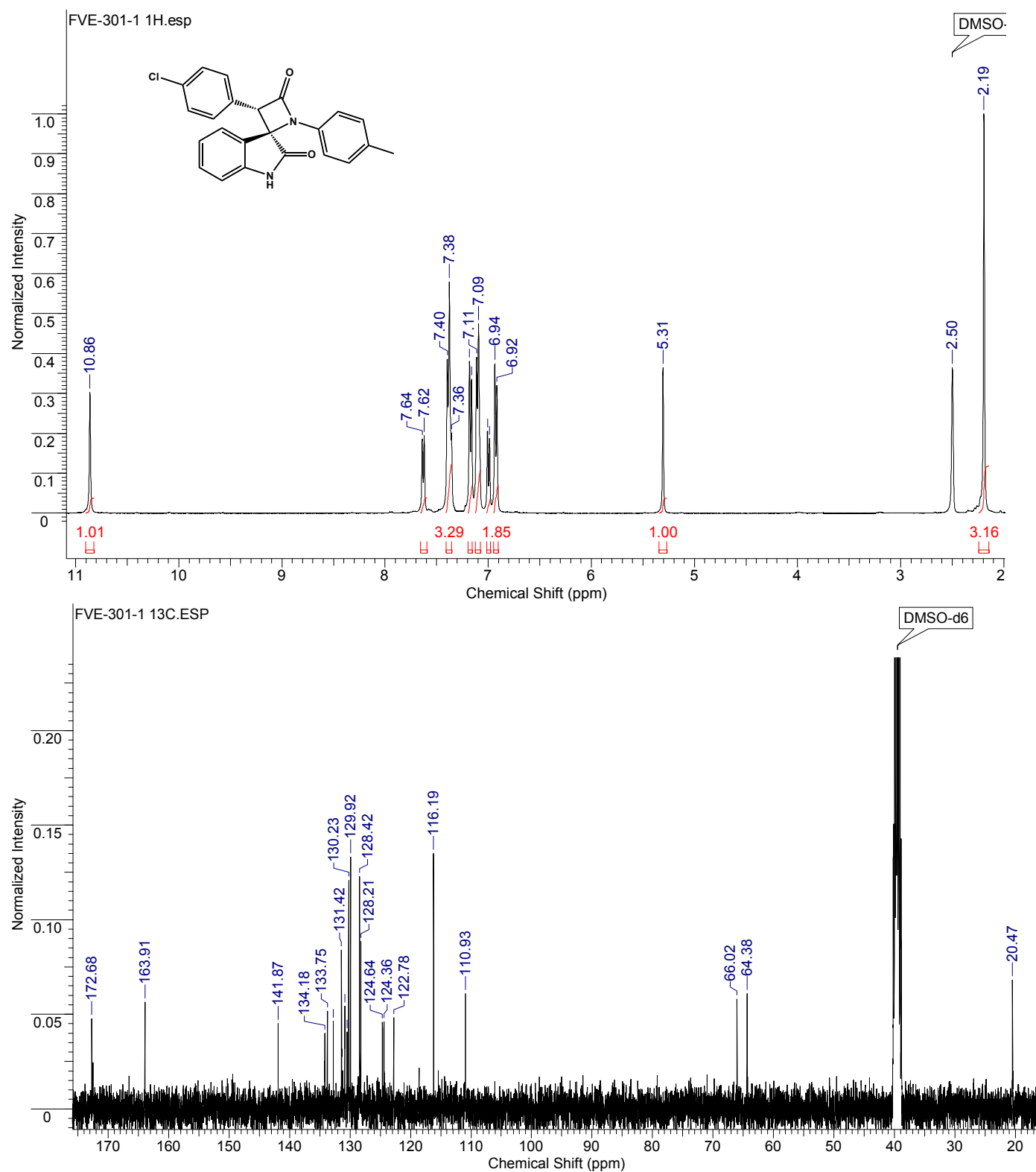


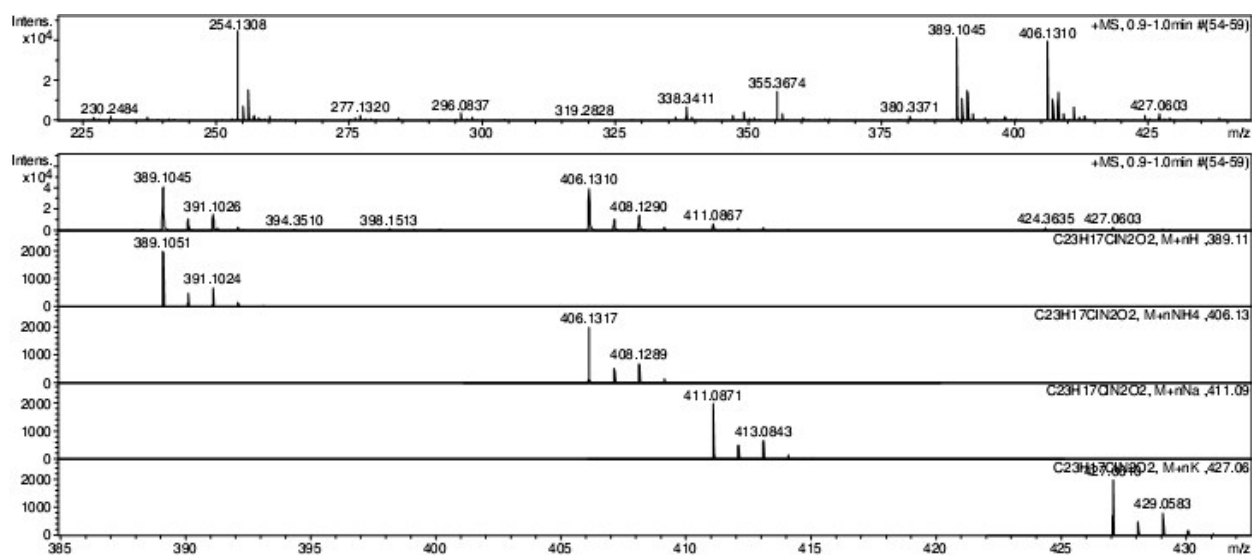
33b. (2*R**,3*R**)-3-(4-chlorophenyl)-1-(4-methoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

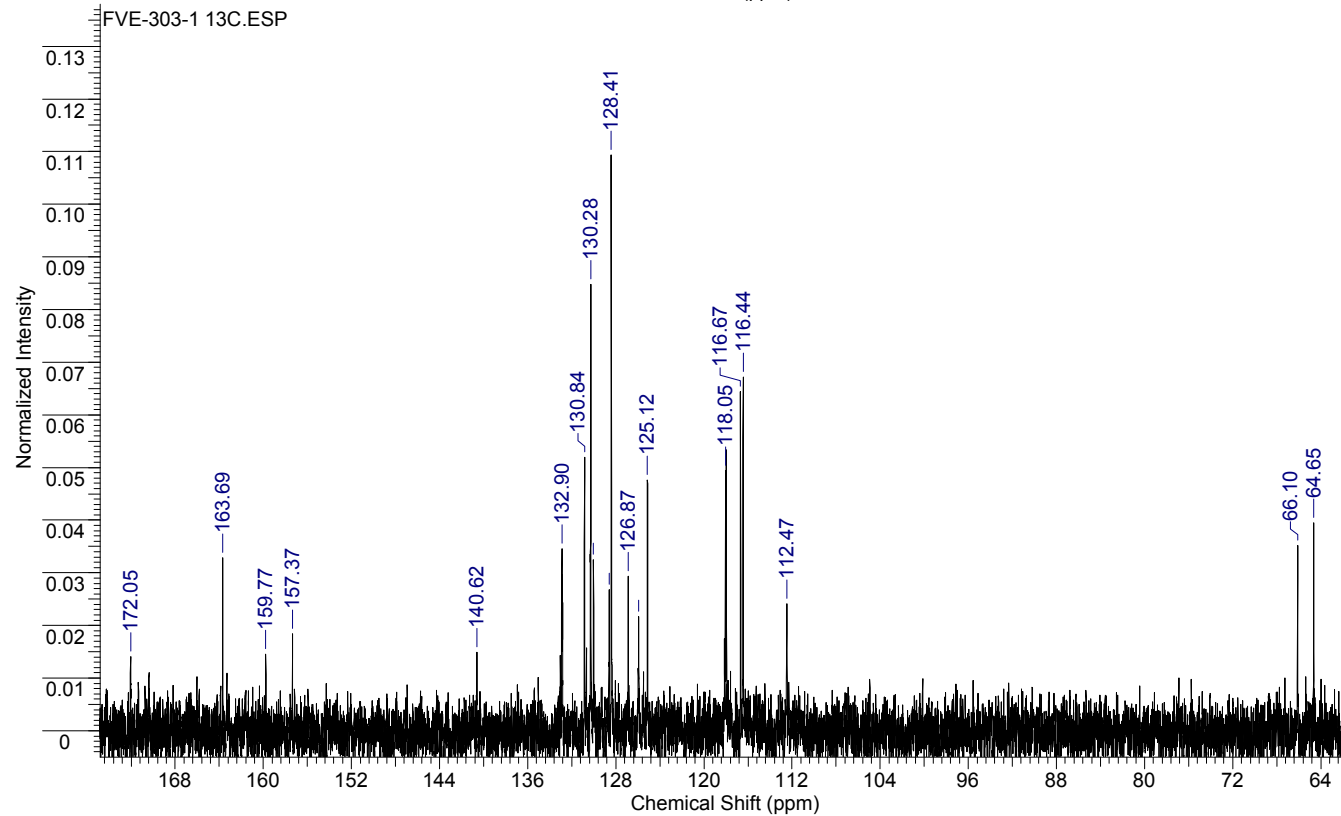
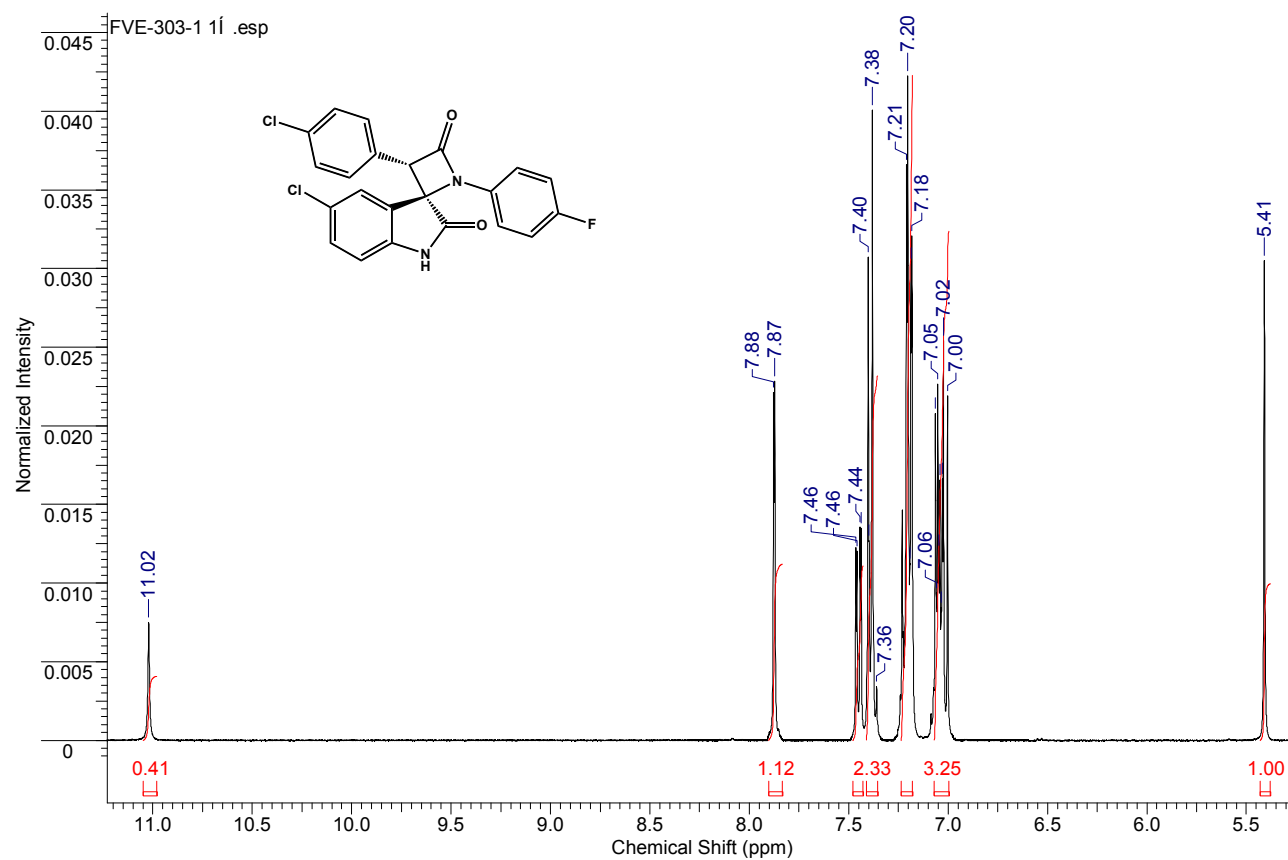


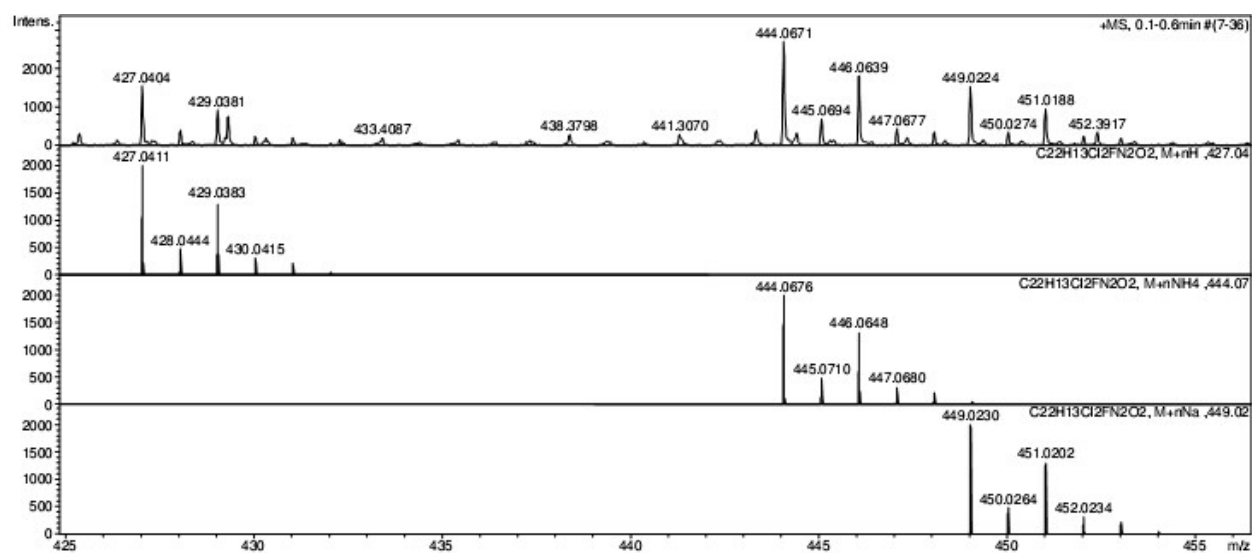
34a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(*m*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione



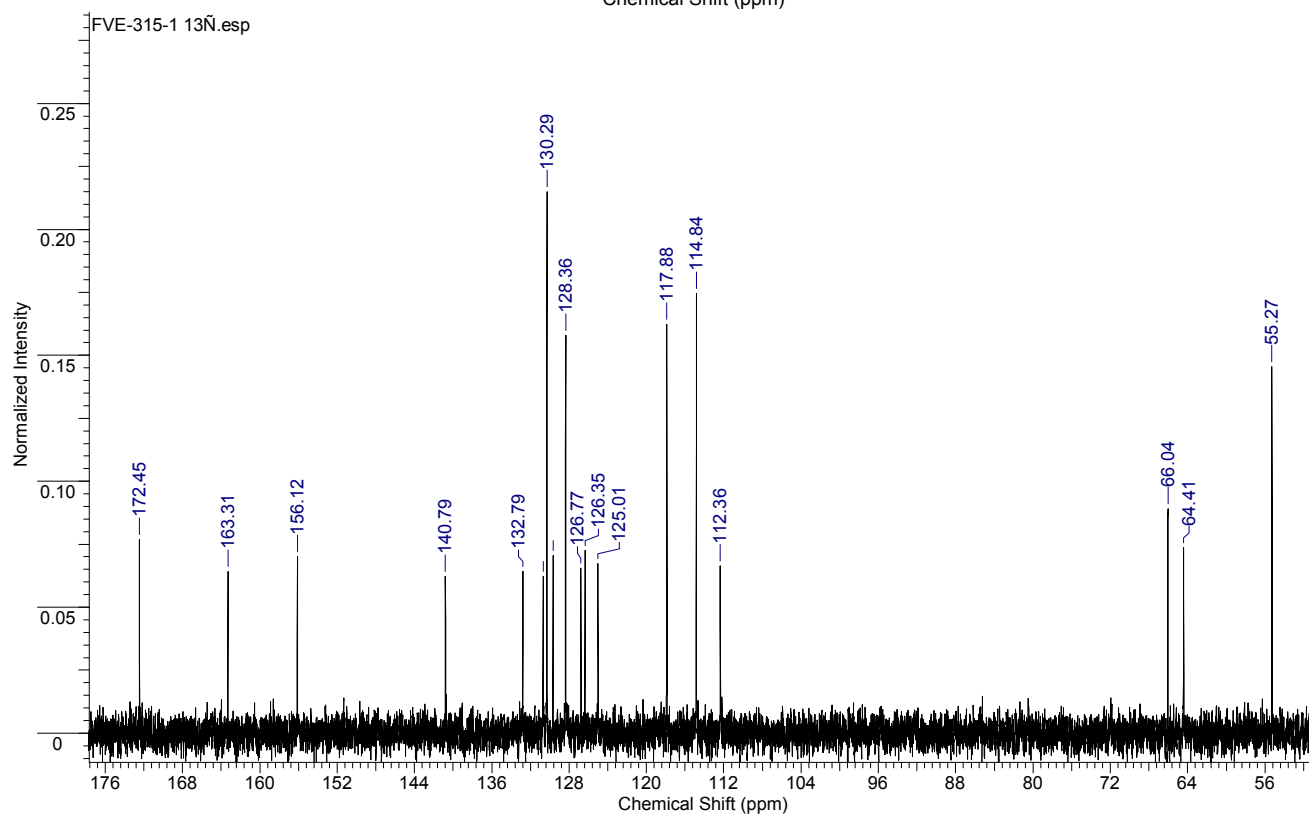
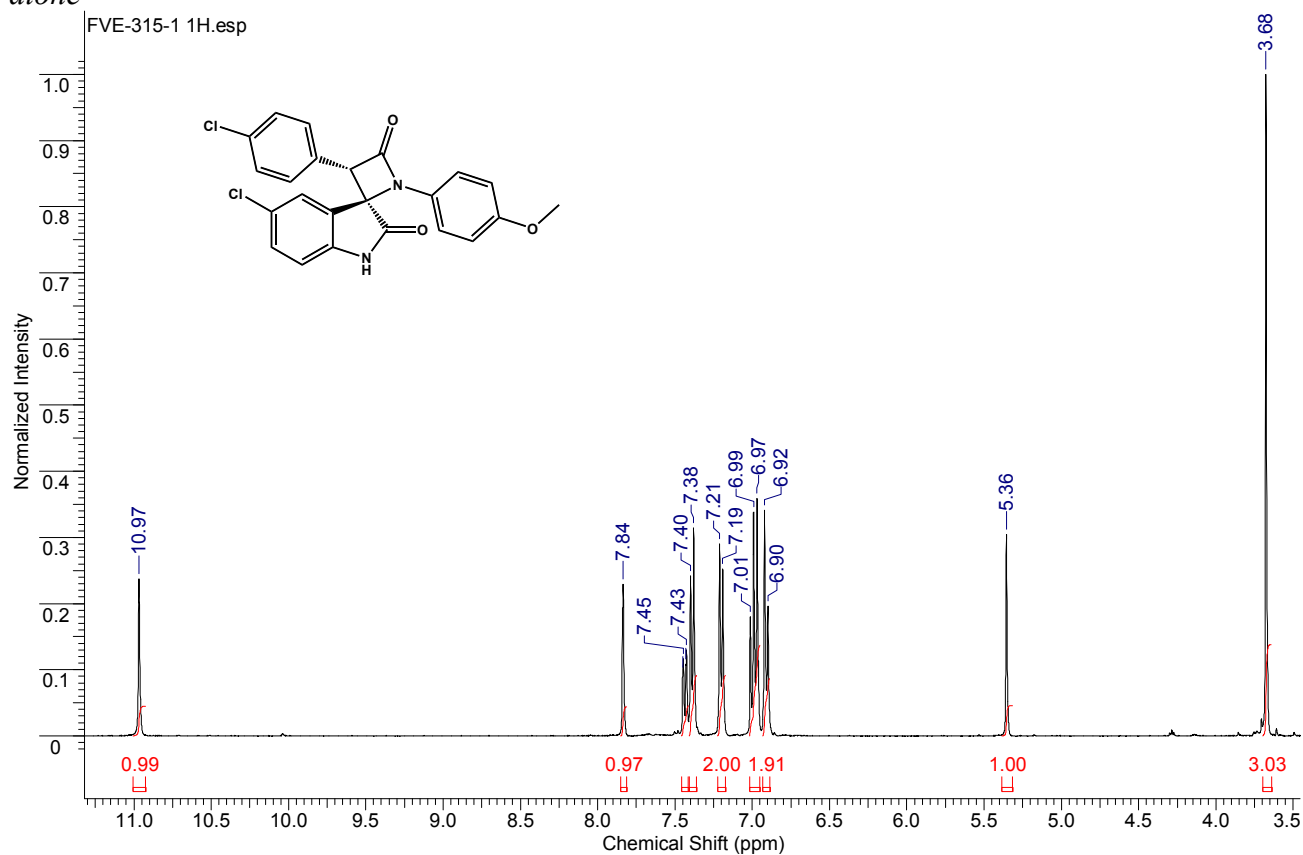
35a. (2*R**,3*S**)-3-(4-chlorophenyl)-1-(*p*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione

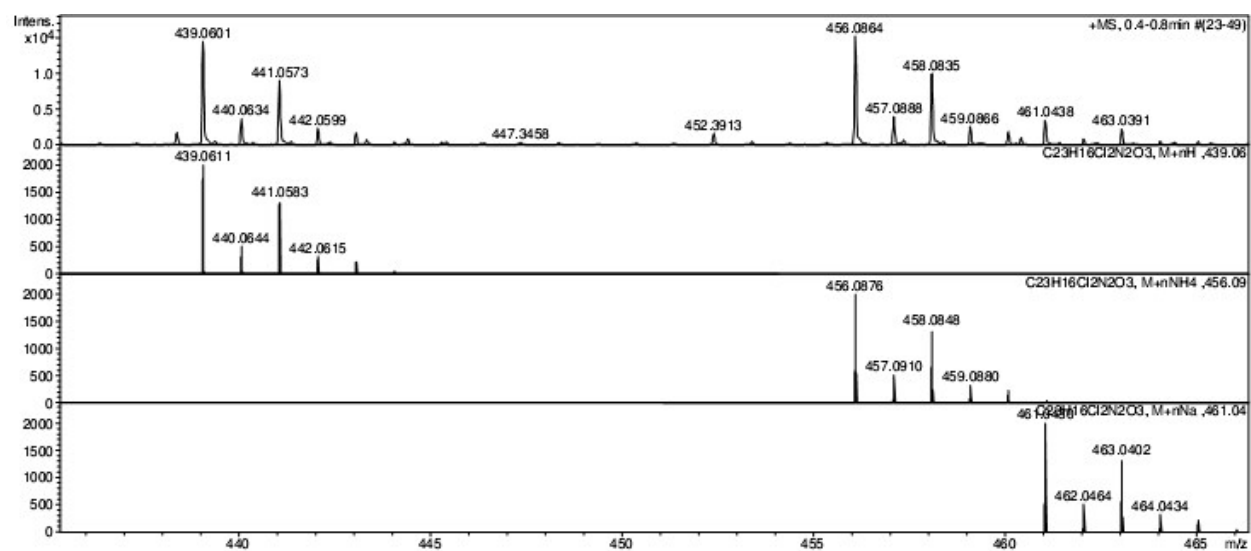


36a. (2*R**,3*S**)-5'-chloro-3-(4-chlorophenyl)-1-(4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

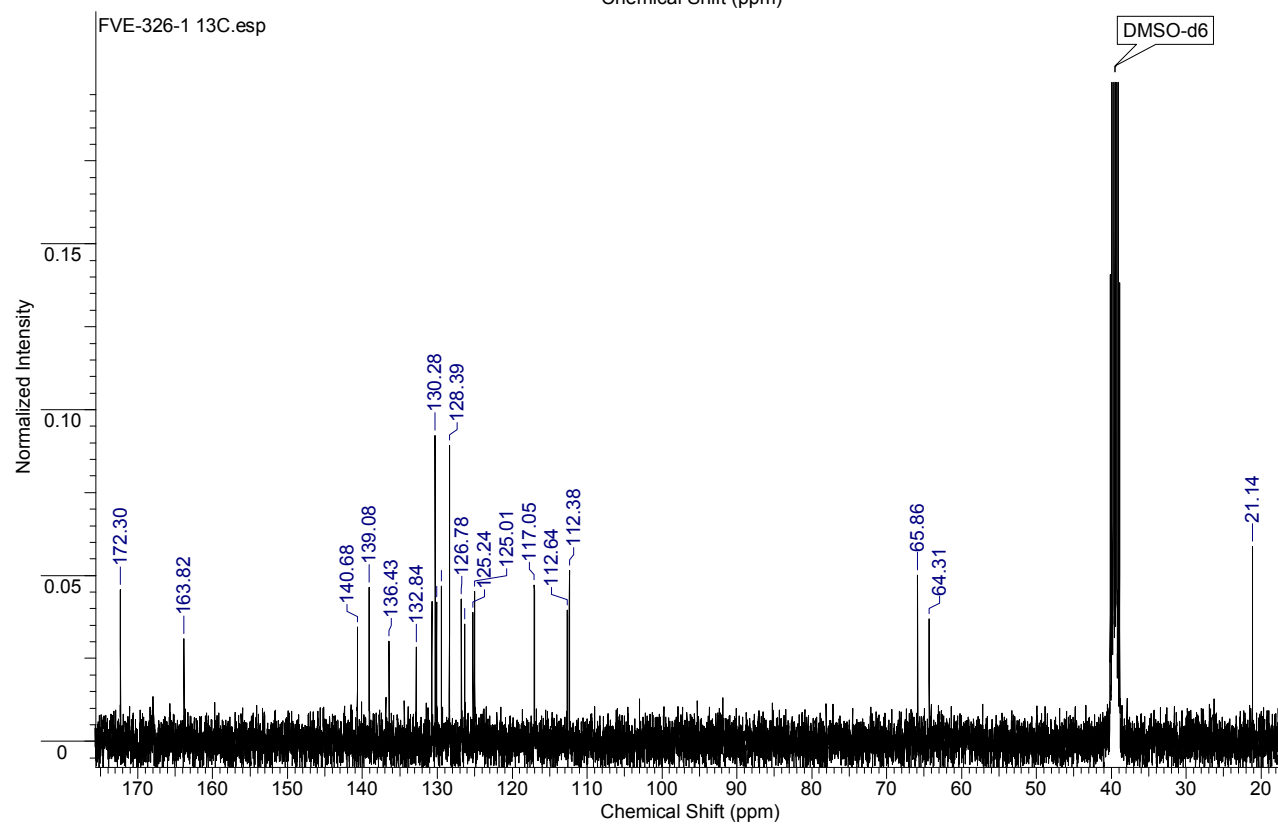
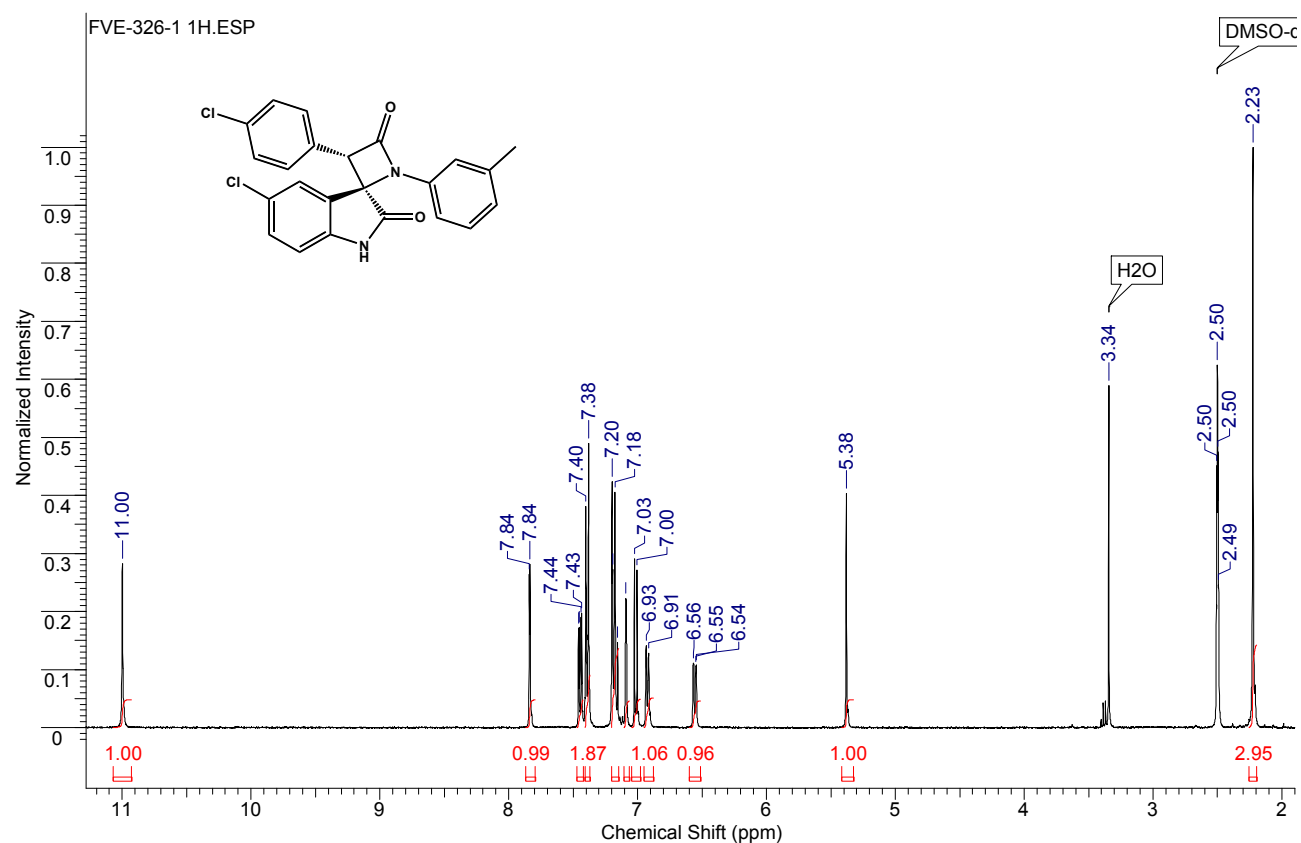


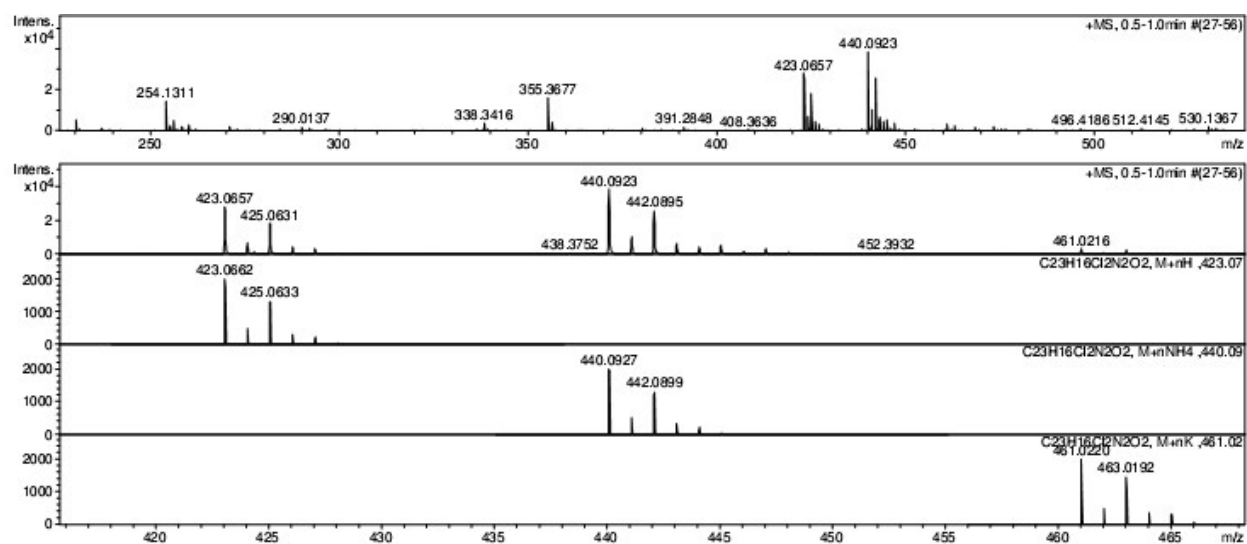
37a. (2*R**,3*S**)-5'-chloro-3-(4-chlorophenyl)-1-(4-methoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4'-dione

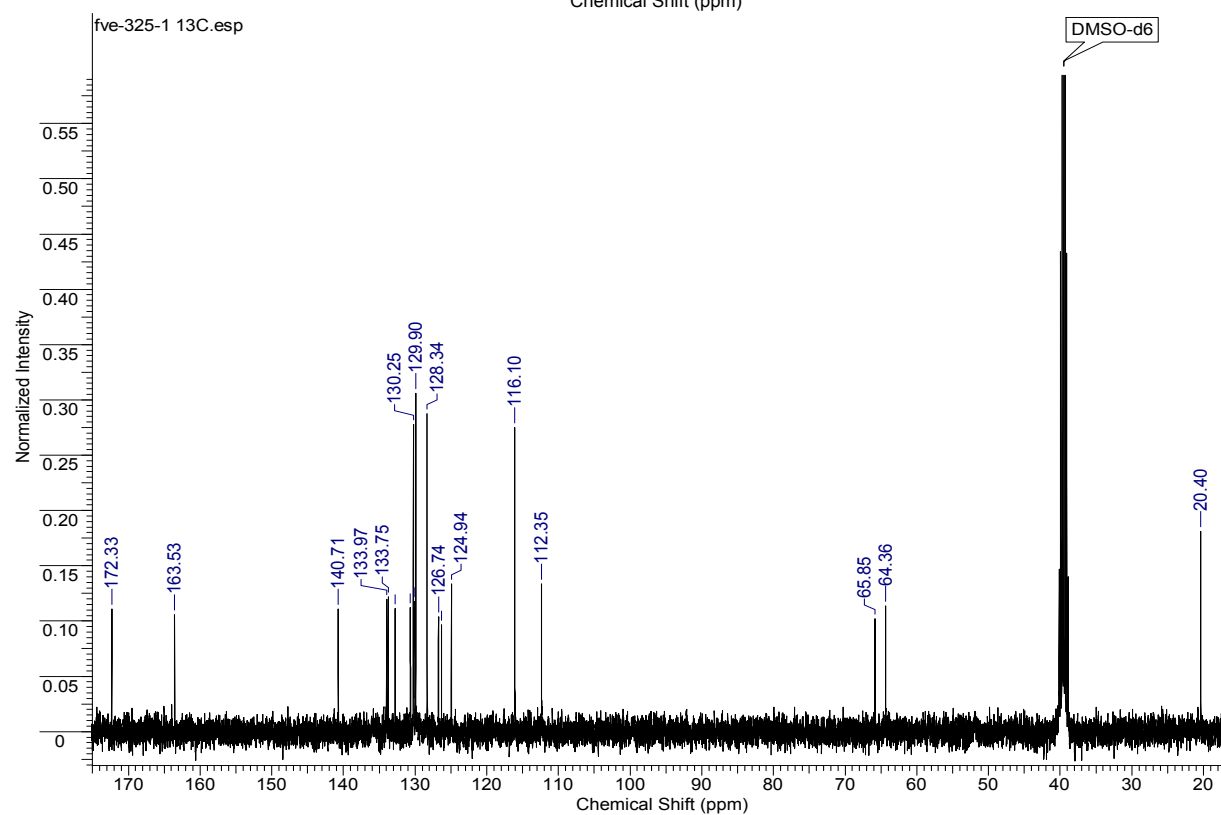
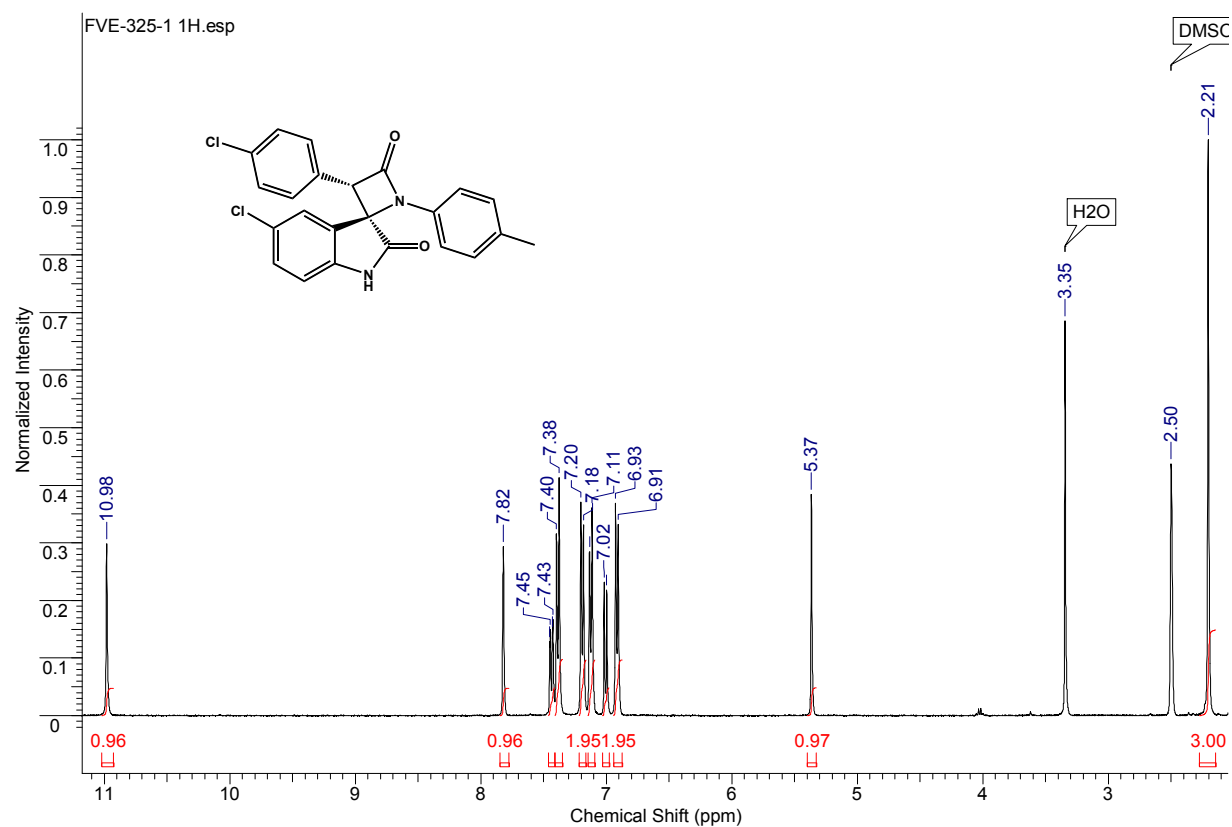


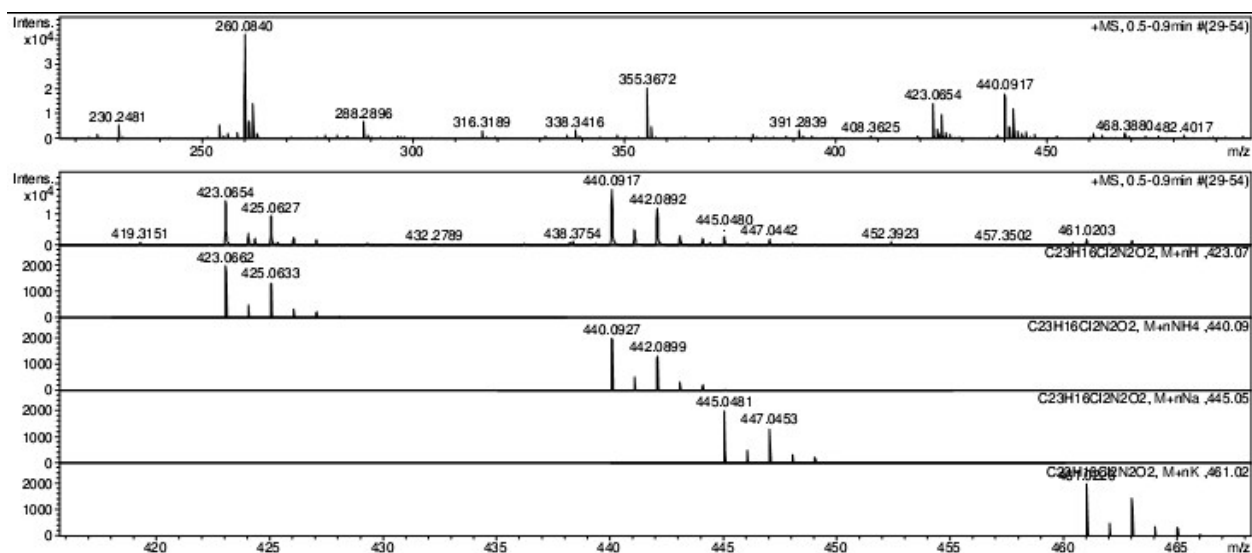


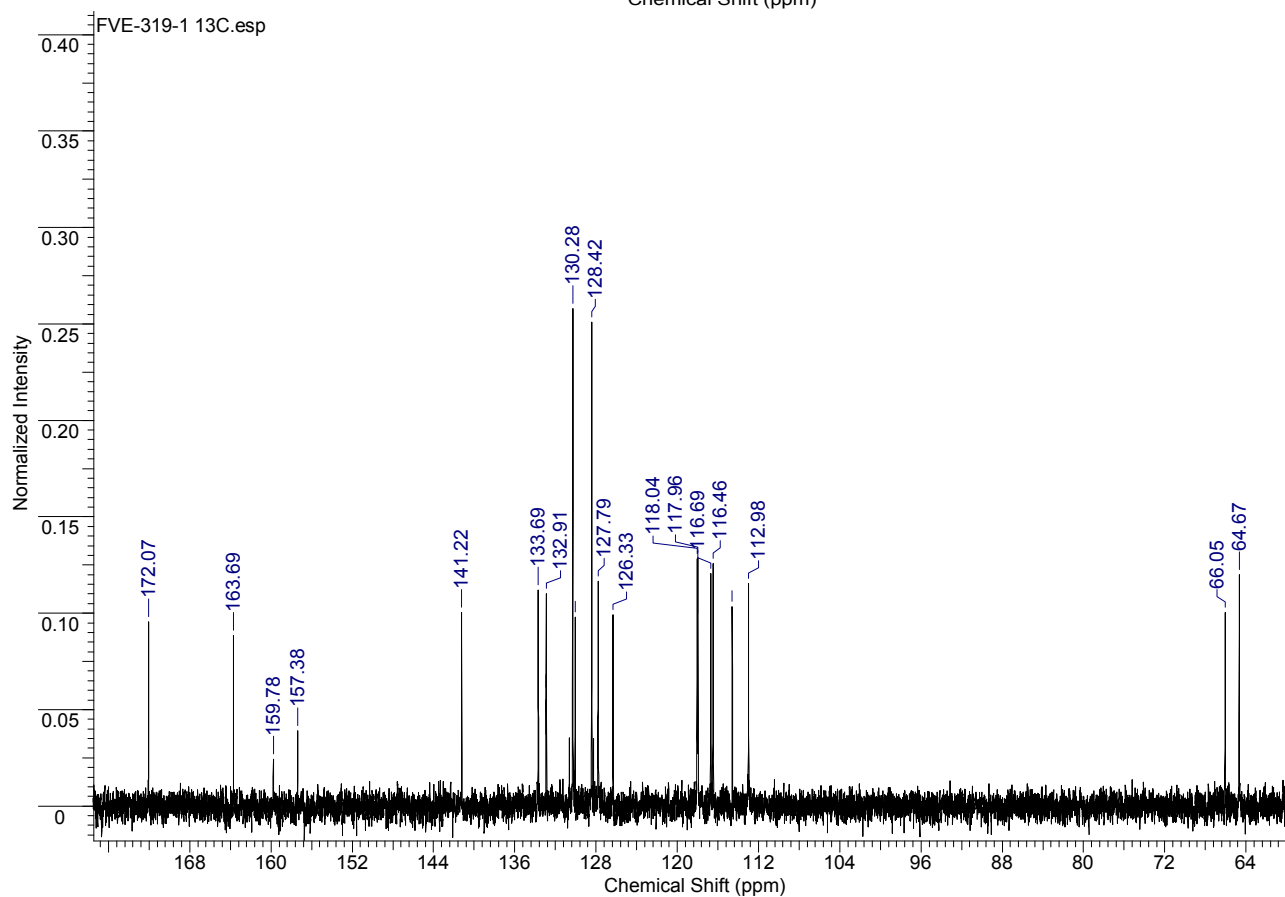
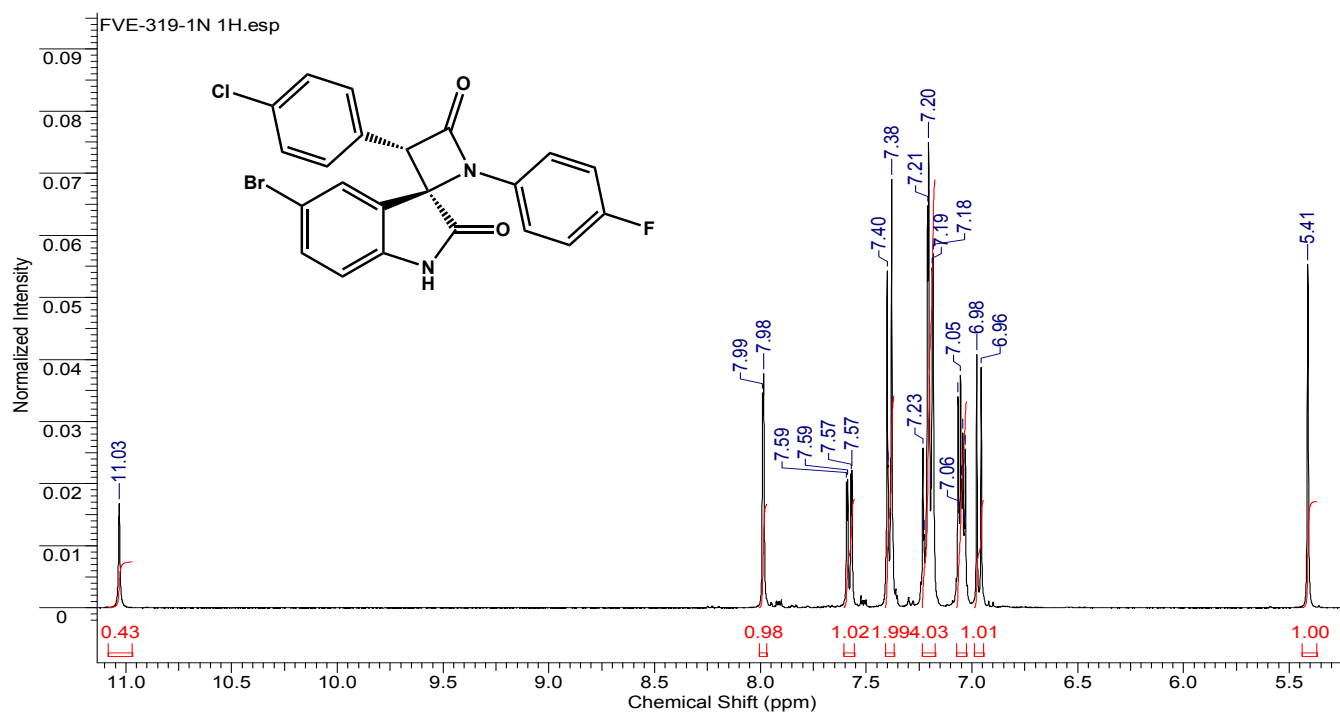
38a. (2*R**,3*S**)-5'-chloro-3-(4-chlorophenyl)-1-(*m*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione

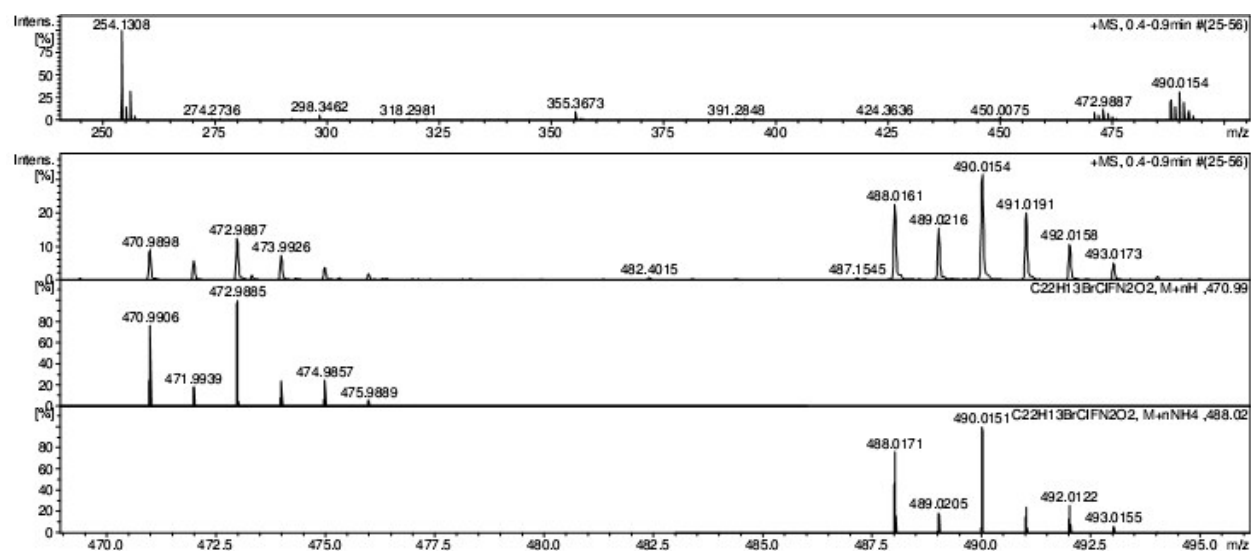




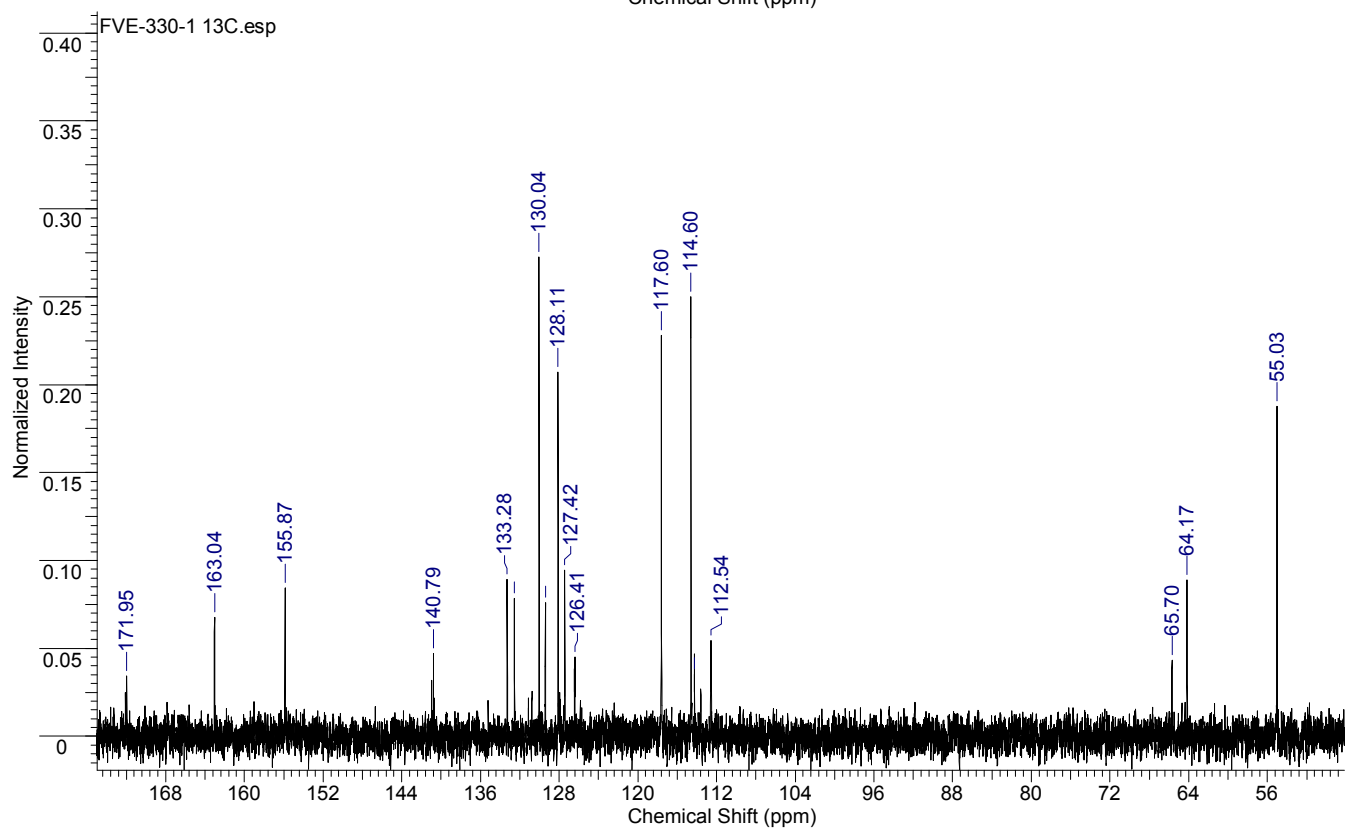
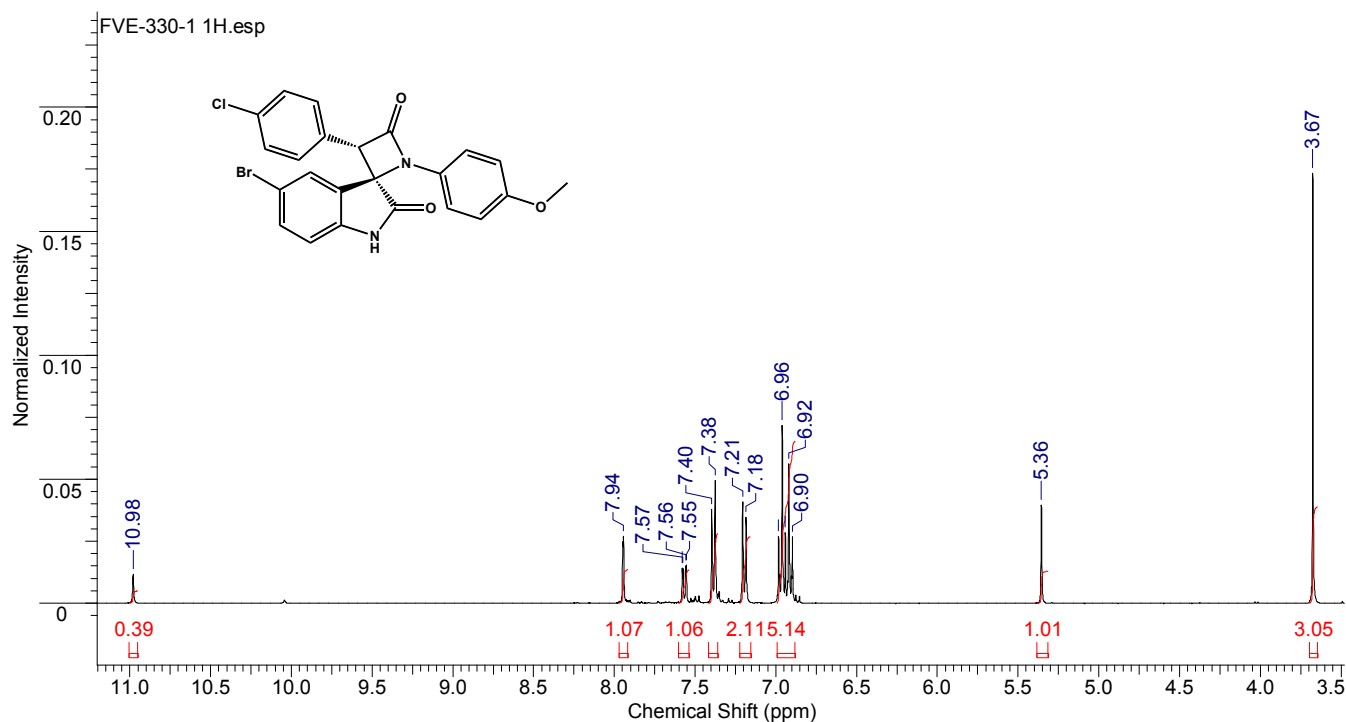
39a. (2*R**,3*S**)-5'-chloro-3-(4-chlorophenyl)-1-(*p*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione

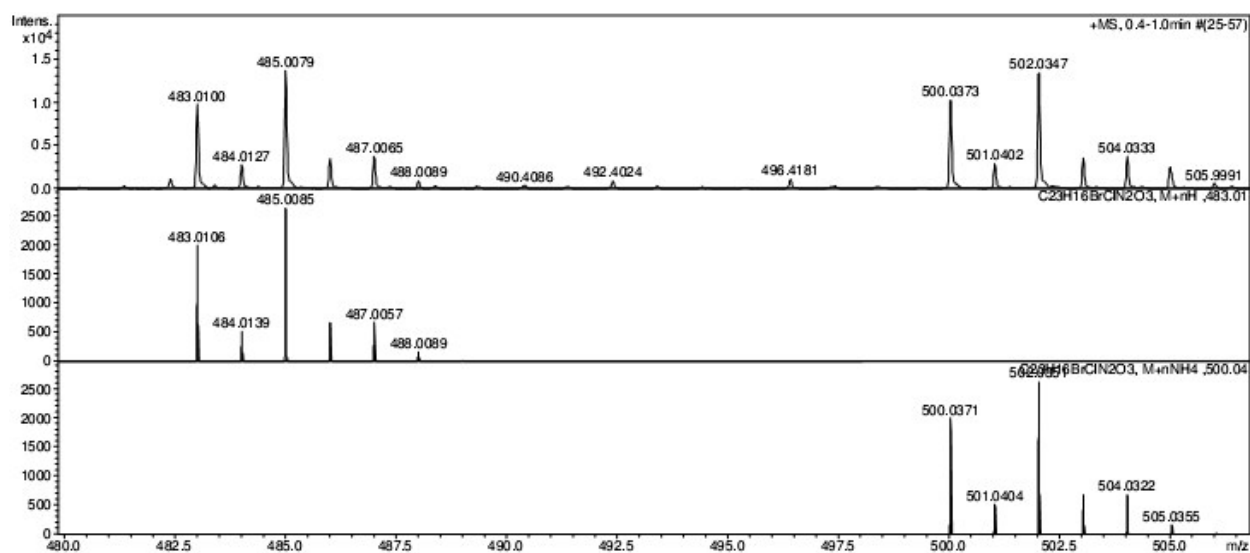


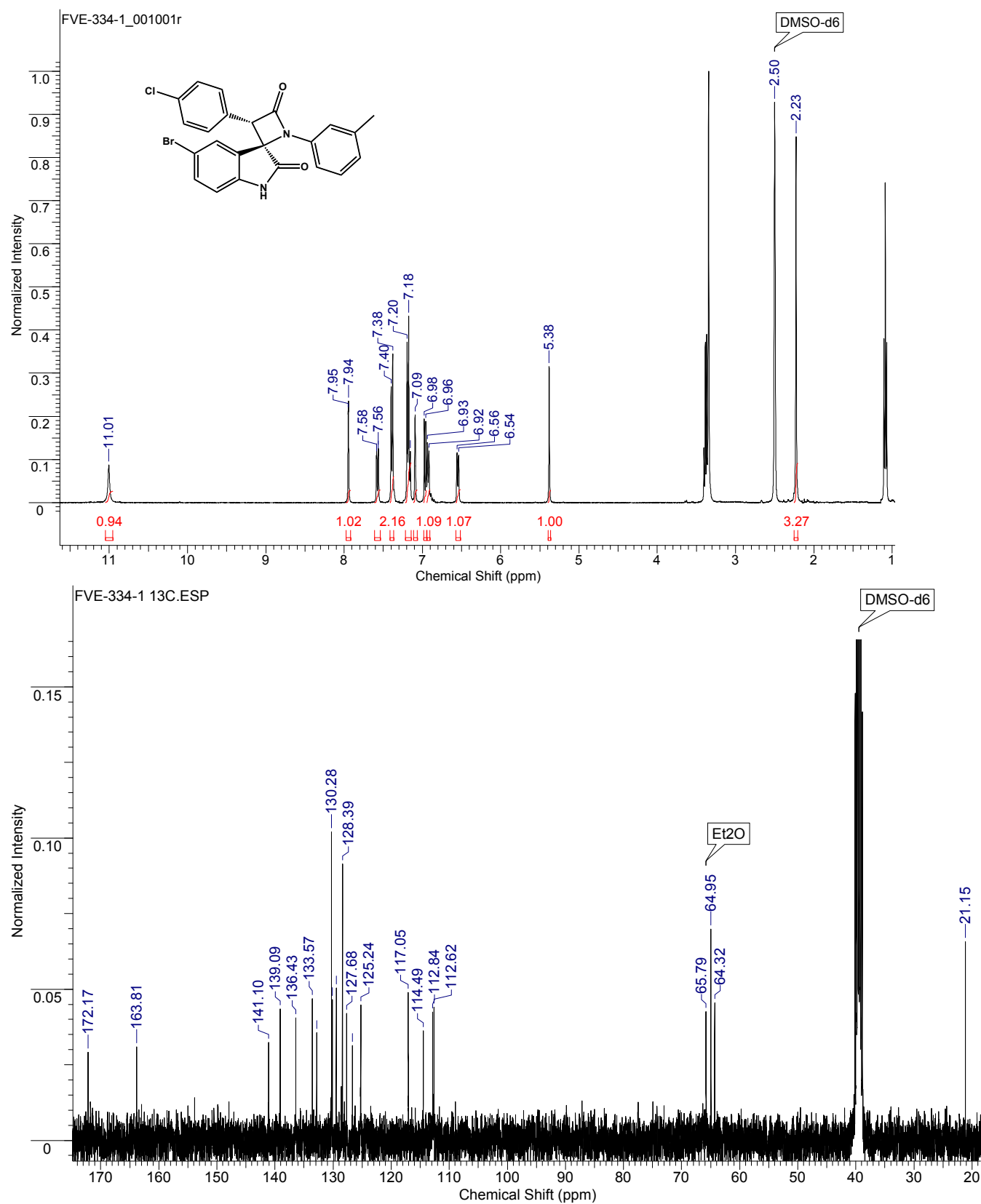
40a. (2*R**,3*S**)-5'-bromo-3-(4-chlorophenyl)-1-(4-fluorophenyl)spiro[azetidine-2,3'-indoline]-2',4-dione

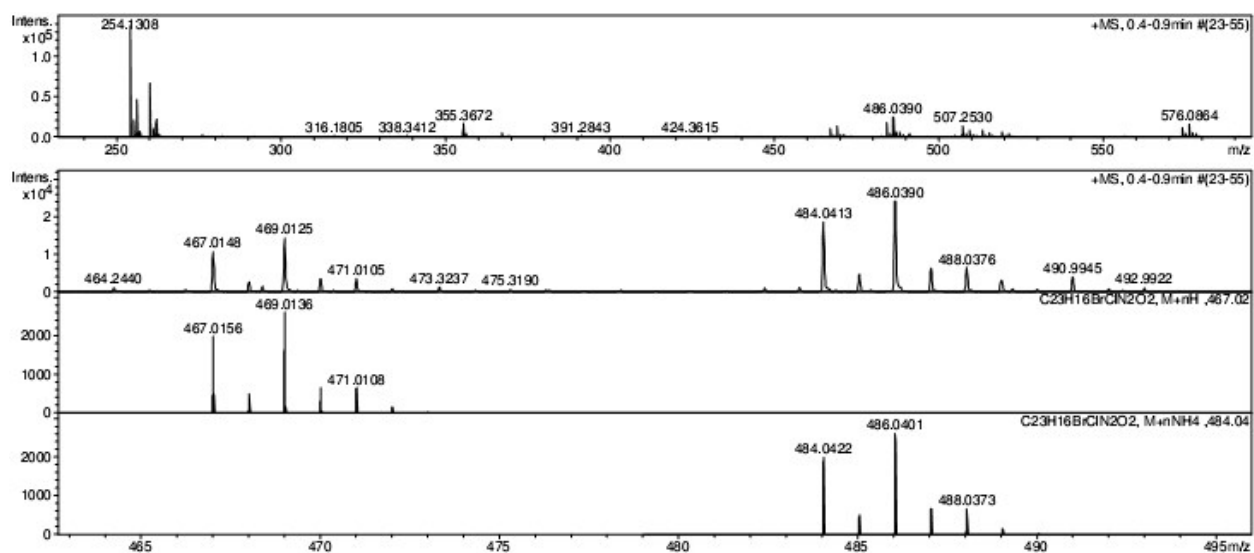


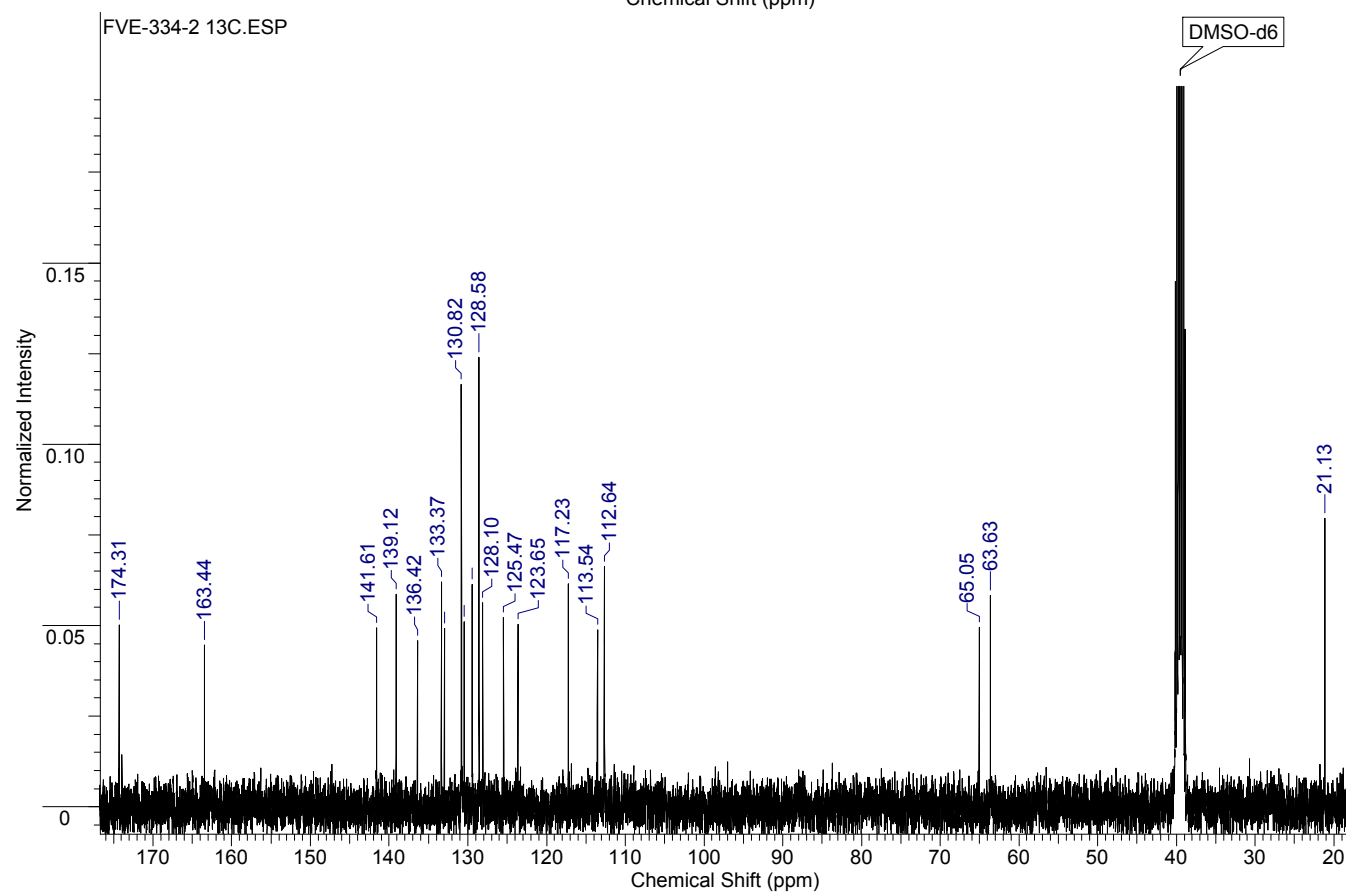
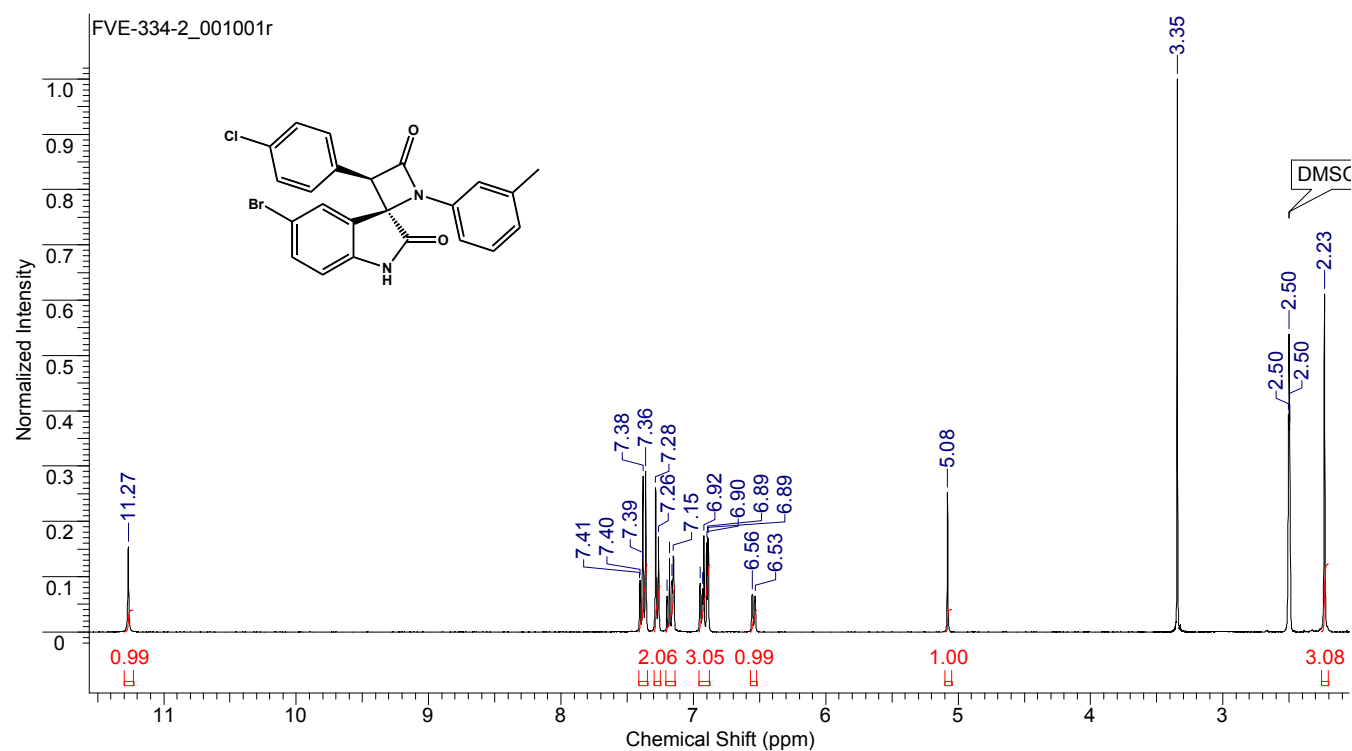
41a. (2*R**,3*S**)-5'-bromo-3-(4-chlorophenyl)-1-(4-methoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4'-dione

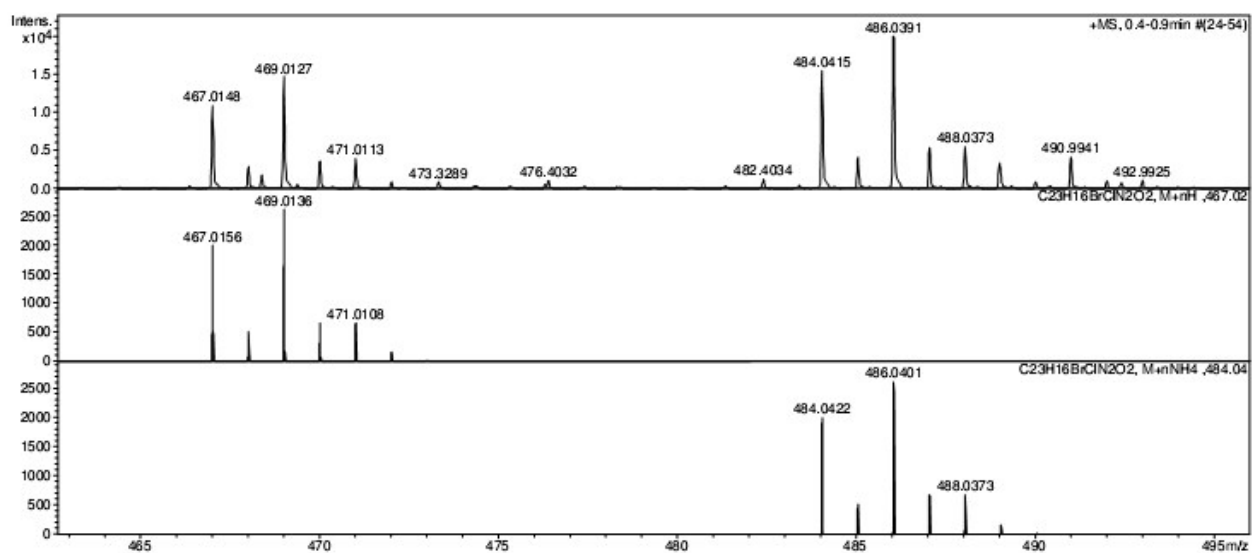




42a. (2*R**,3*S**)-5'-bromo-3-(4-chlorophenyl)-1-(*m*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione



42b. (2*R**,3*R**)-5'-bromo-3-(4-chlorophenyl)-1-(*m*-tolyl)spiro[azetidine-2,3'-indoline]-2',4-dione



43a. (2*R**,3*S**)-3-(4-bromophenyl)-1-(4-methoxyphenyl)spiro[azetidine-2,3'-indoline]-2',4-dione