

# **<sup>68</sup>Ga-Labeled Benzothiazole Derivatives for Imaging A $\beta$ Plaques in Cerebral Amyloid Angiopathy**

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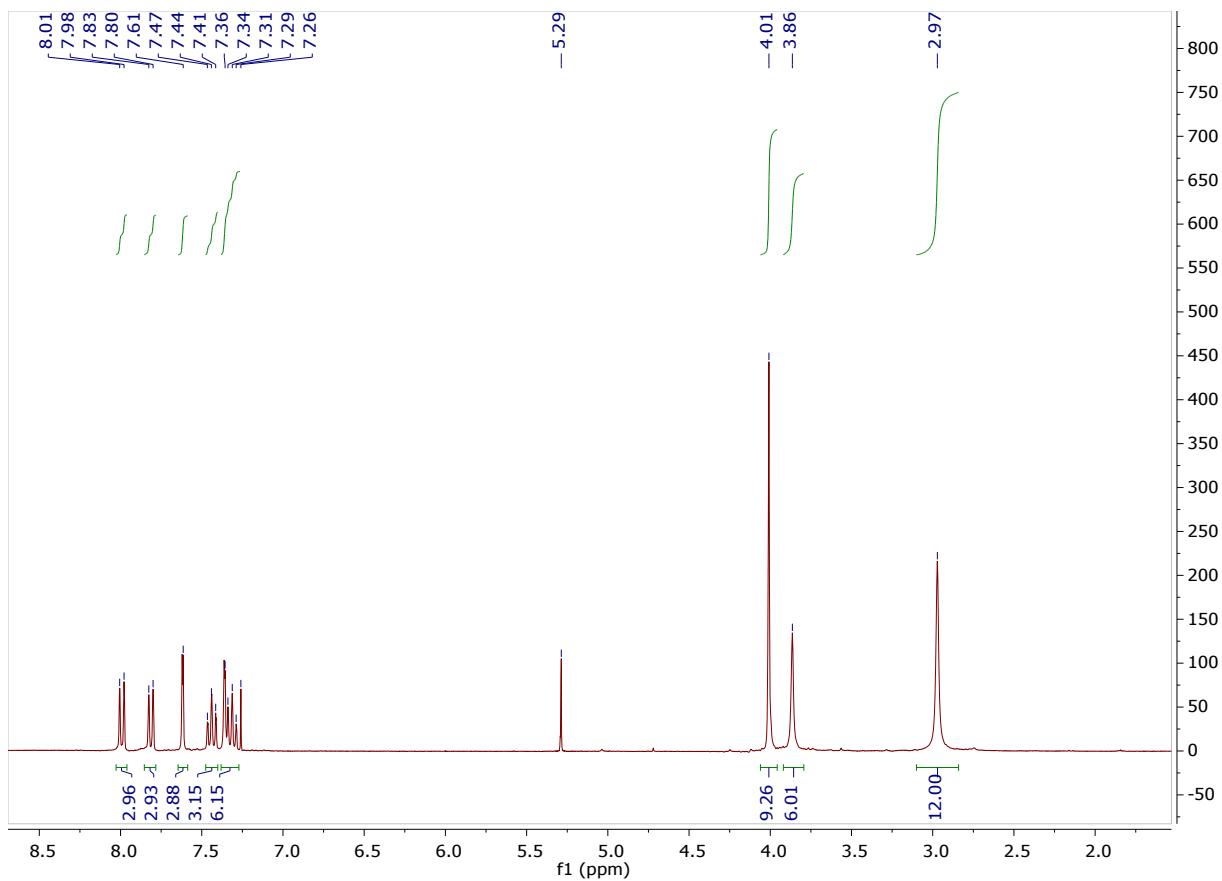
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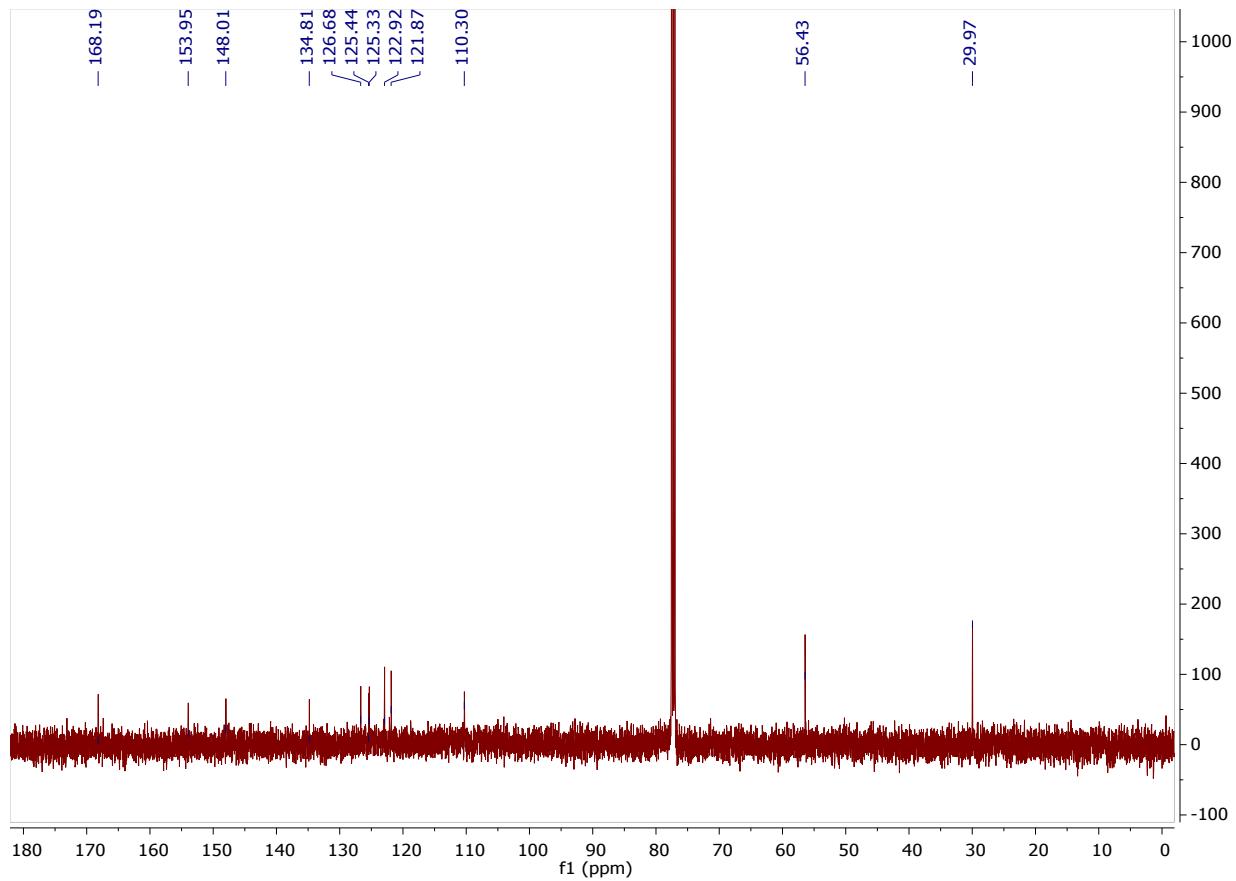
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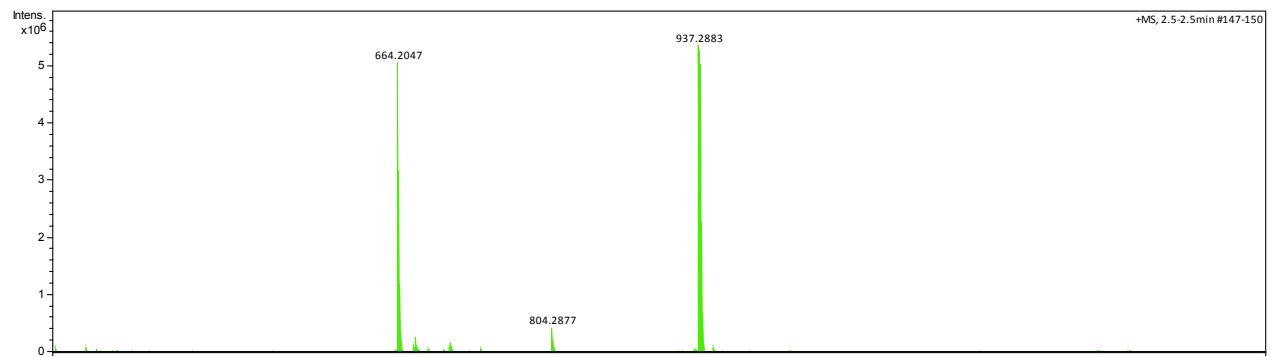
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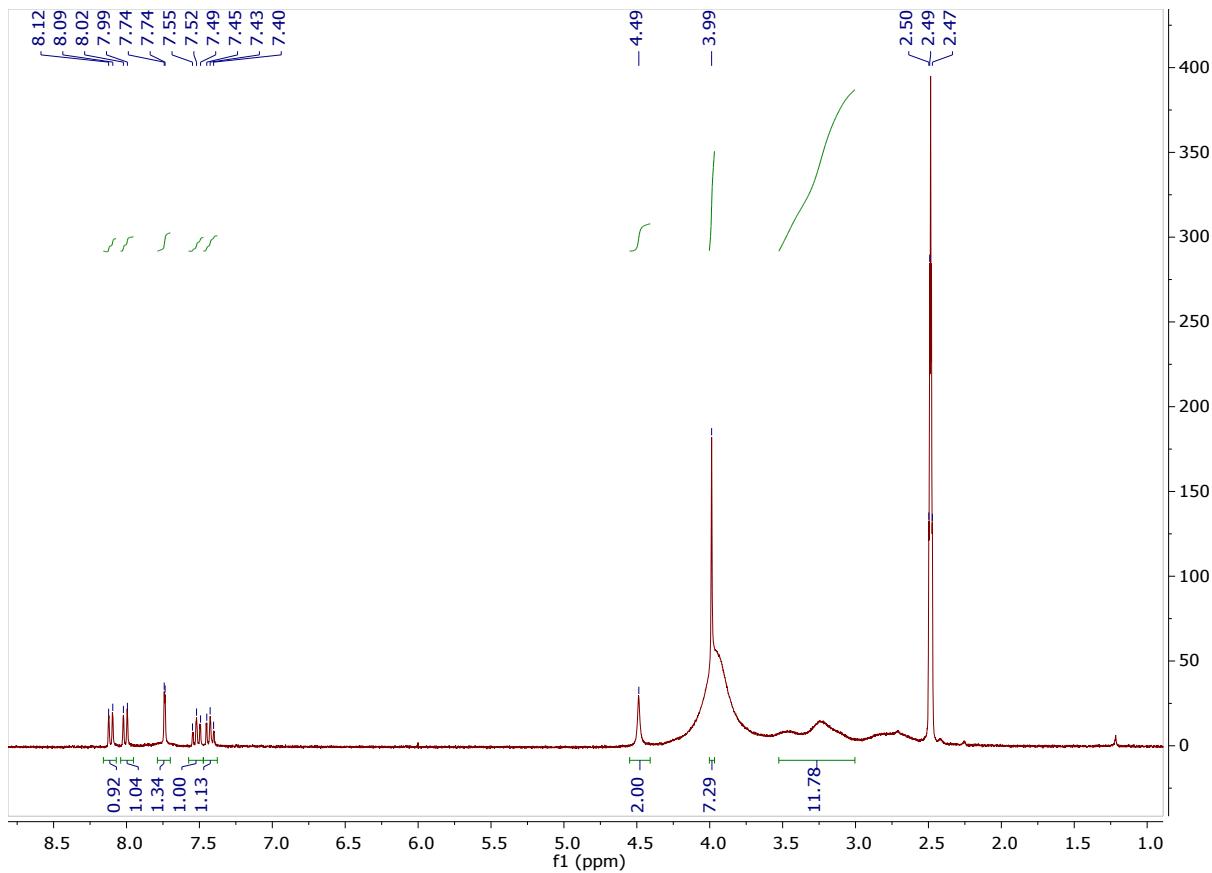
**Figure S1:** <sup>1</sup>H NMR spectrum of YW-11



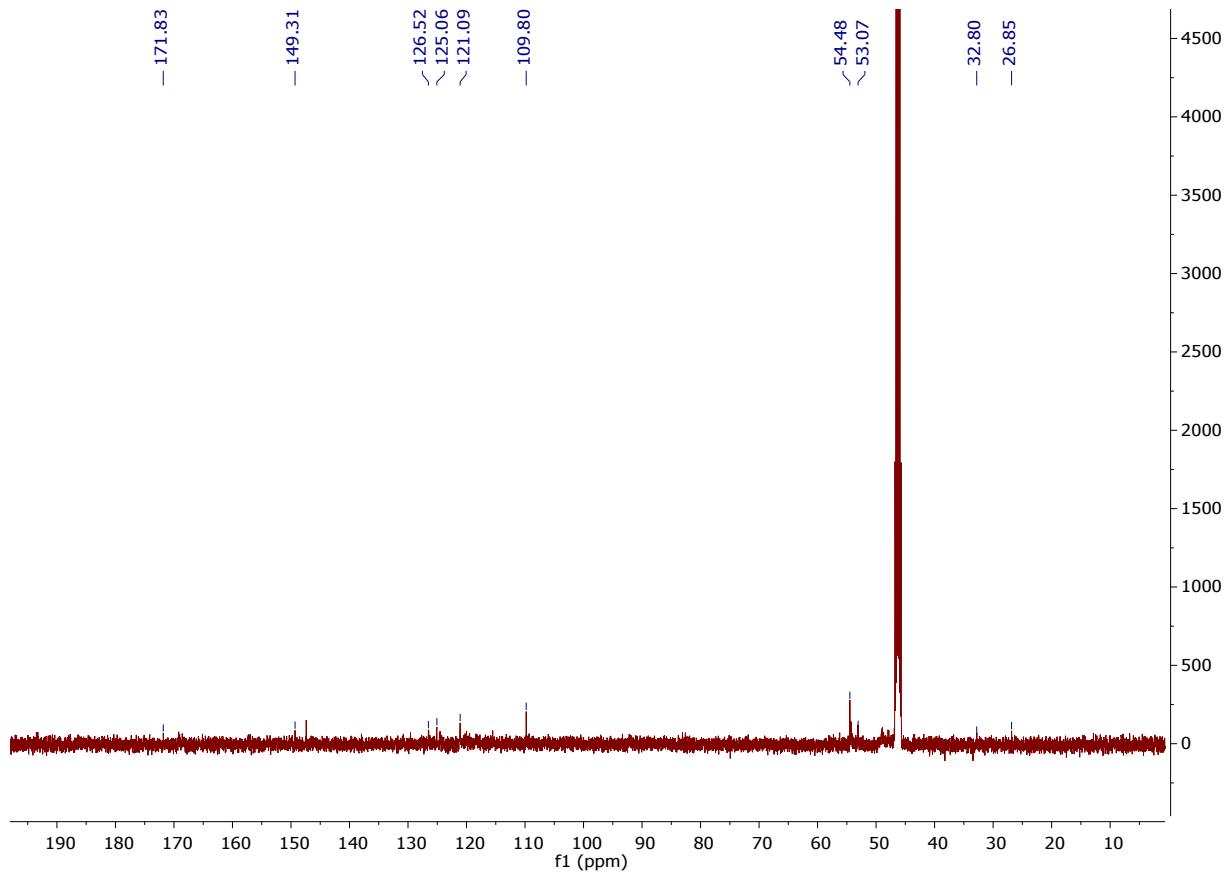
**Figure S2:** <sup>13</sup>C NMR spectrum of YW-11



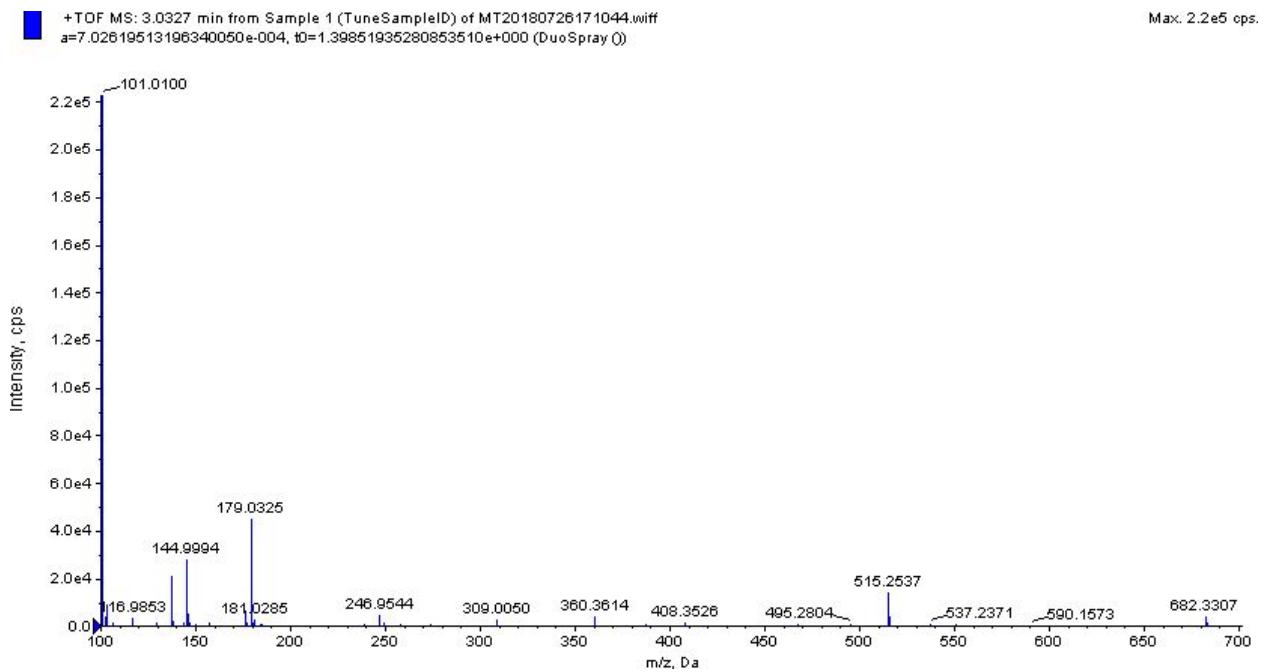
**Figure S3:** HR ESI-MS spectrum of YW-11



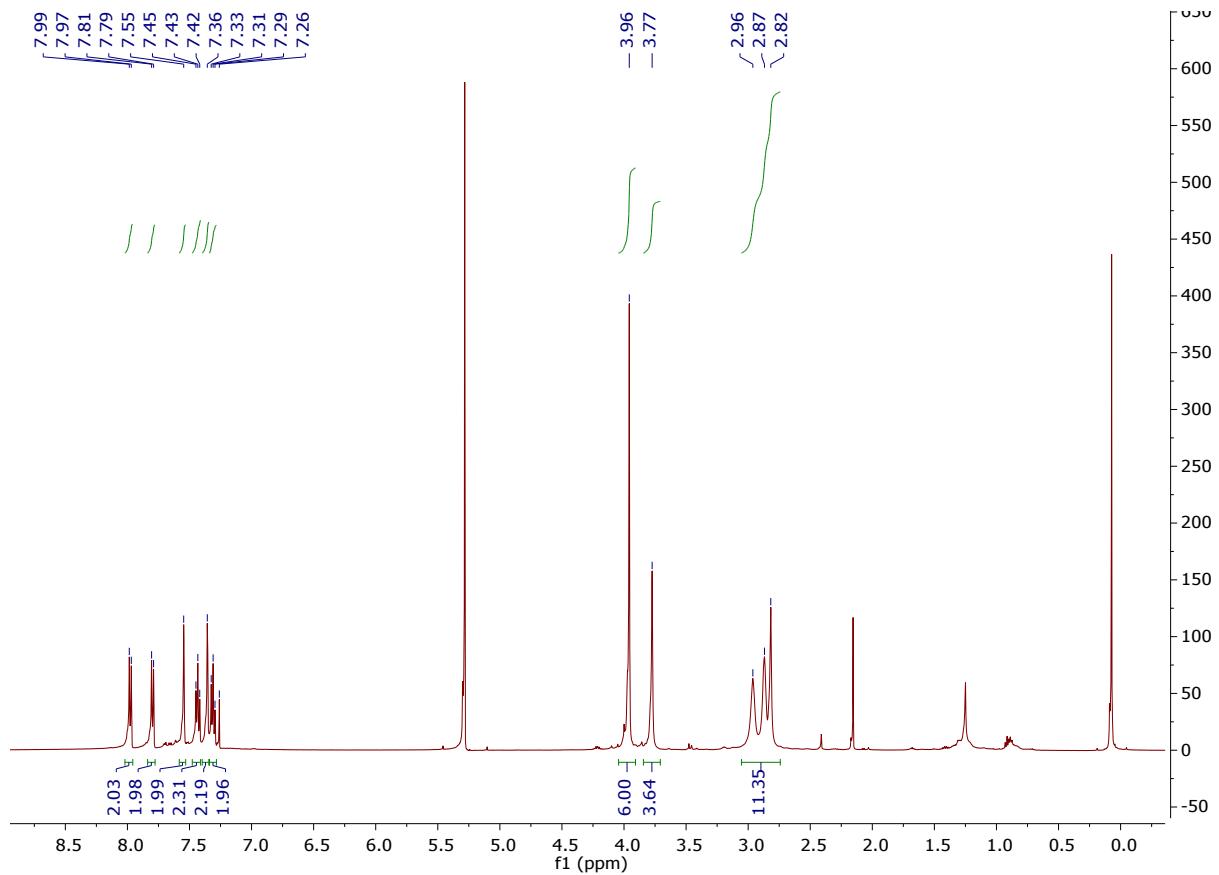
**Figure S4:** <sup>1</sup>H NMR spectrum of YW-13



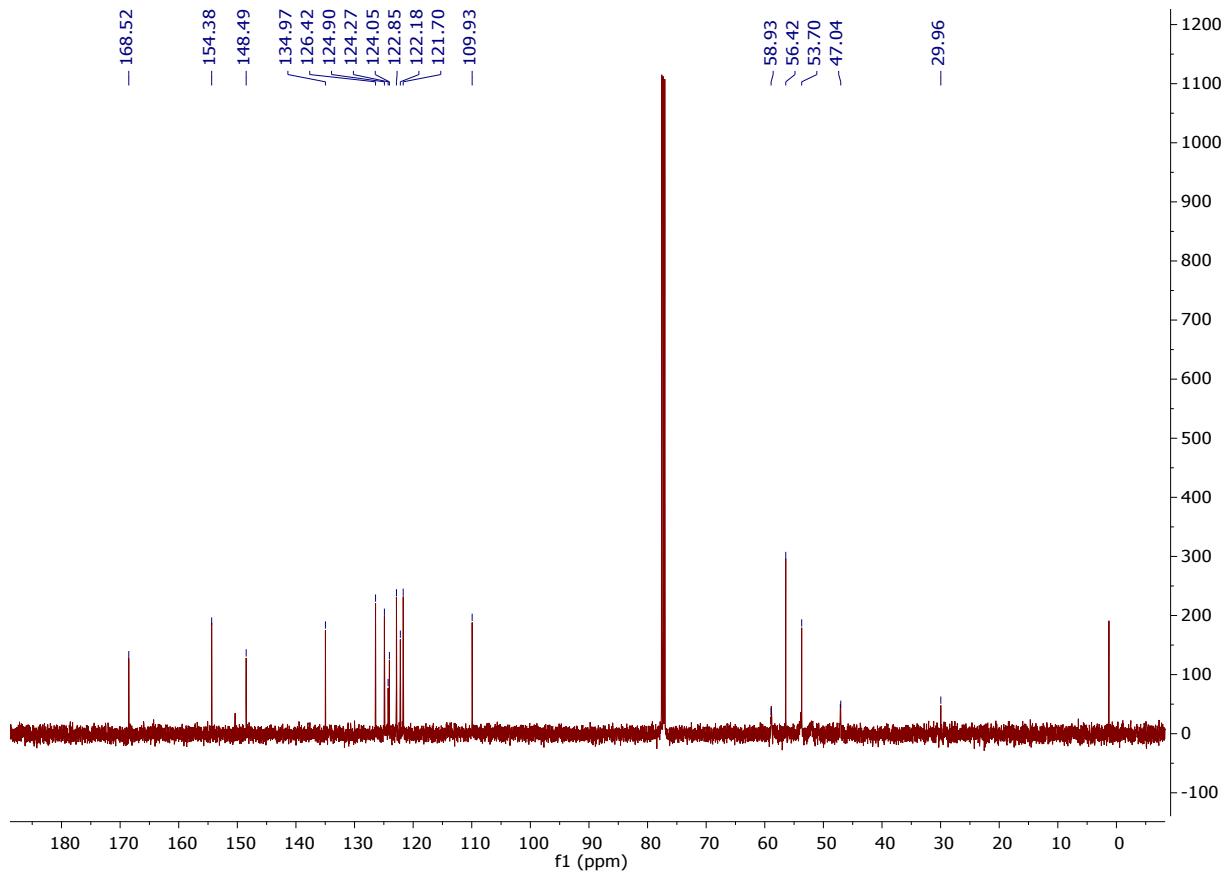
**Figure S5:** <sup>13</sup>C NMR spectrum of YW-13



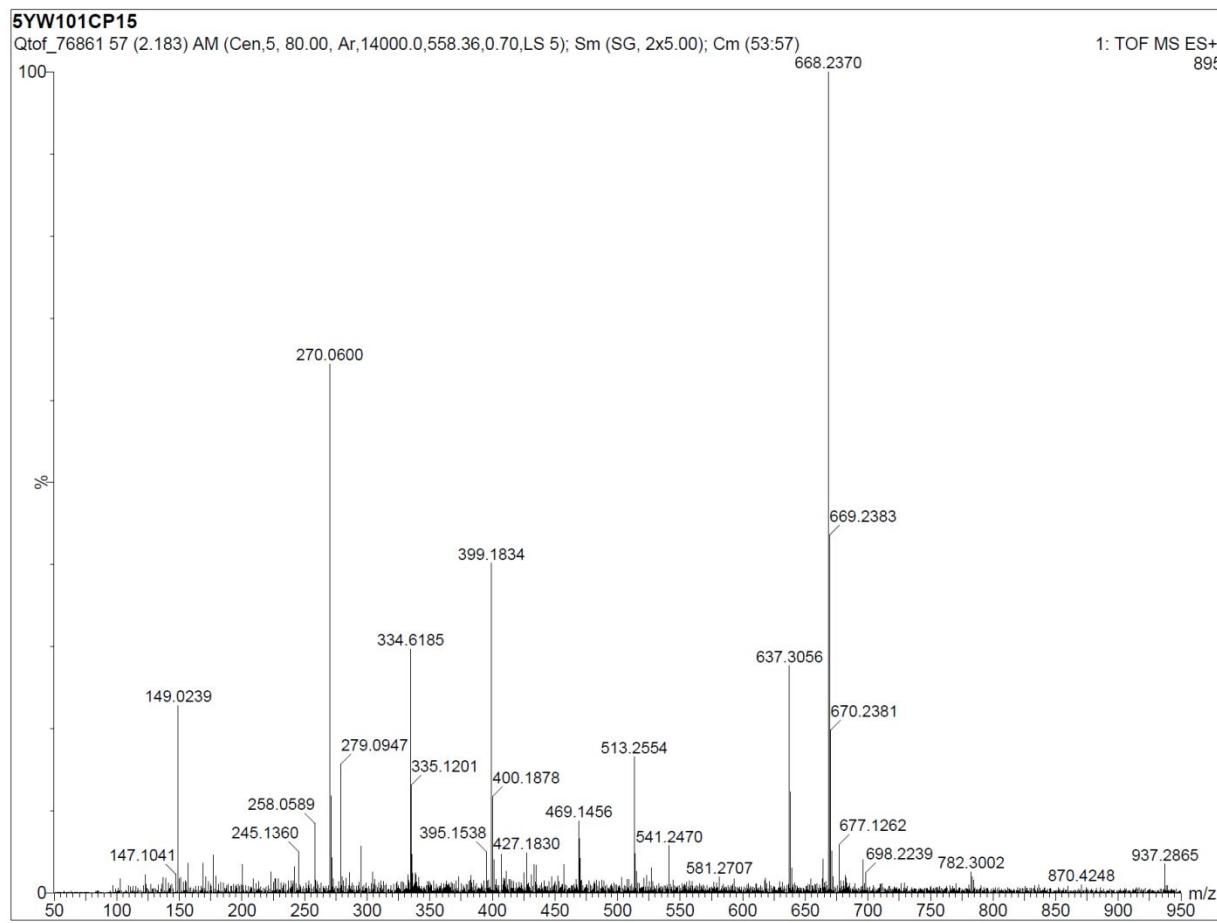
**Figure S6:** HR ESI-MS spectrum of YW-13



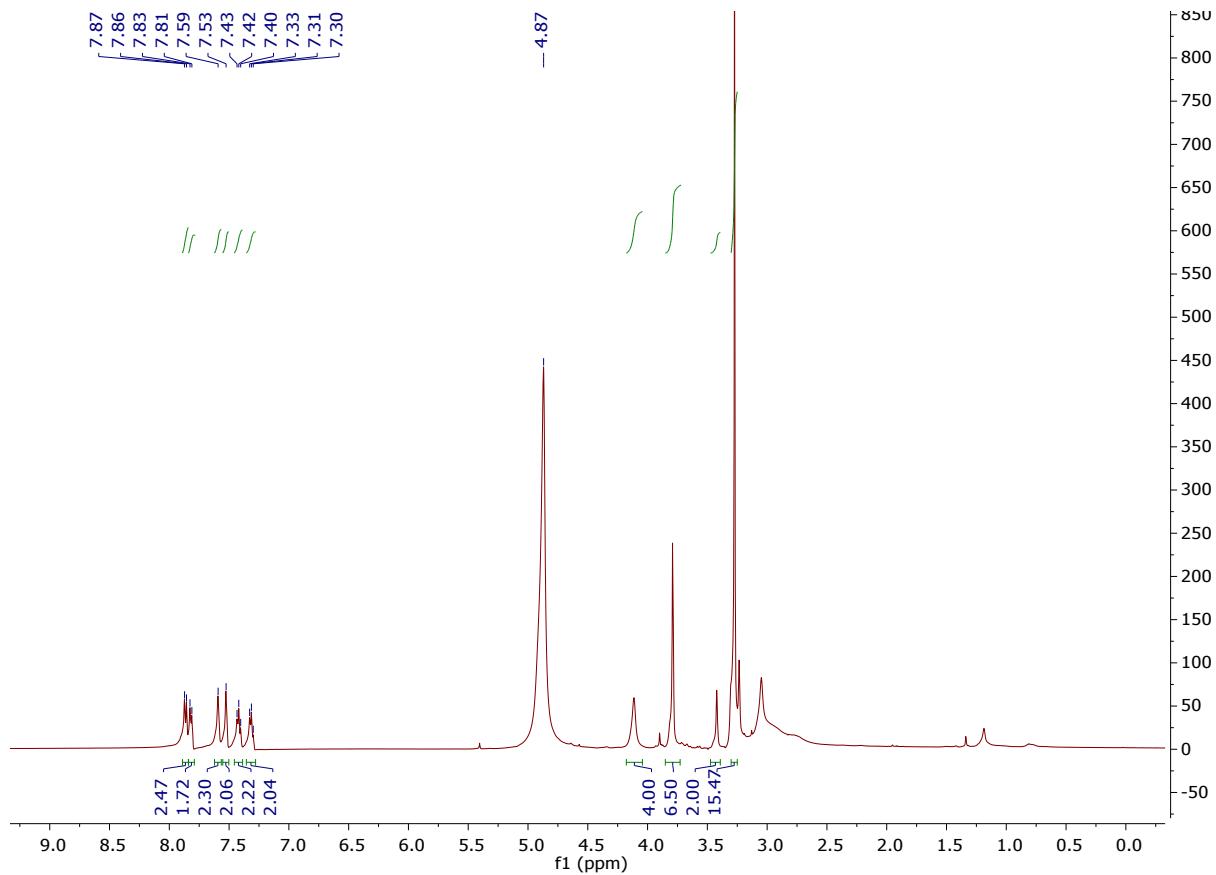
**Figure S7:** <sup>1</sup>H NMR spectrum of YW-15



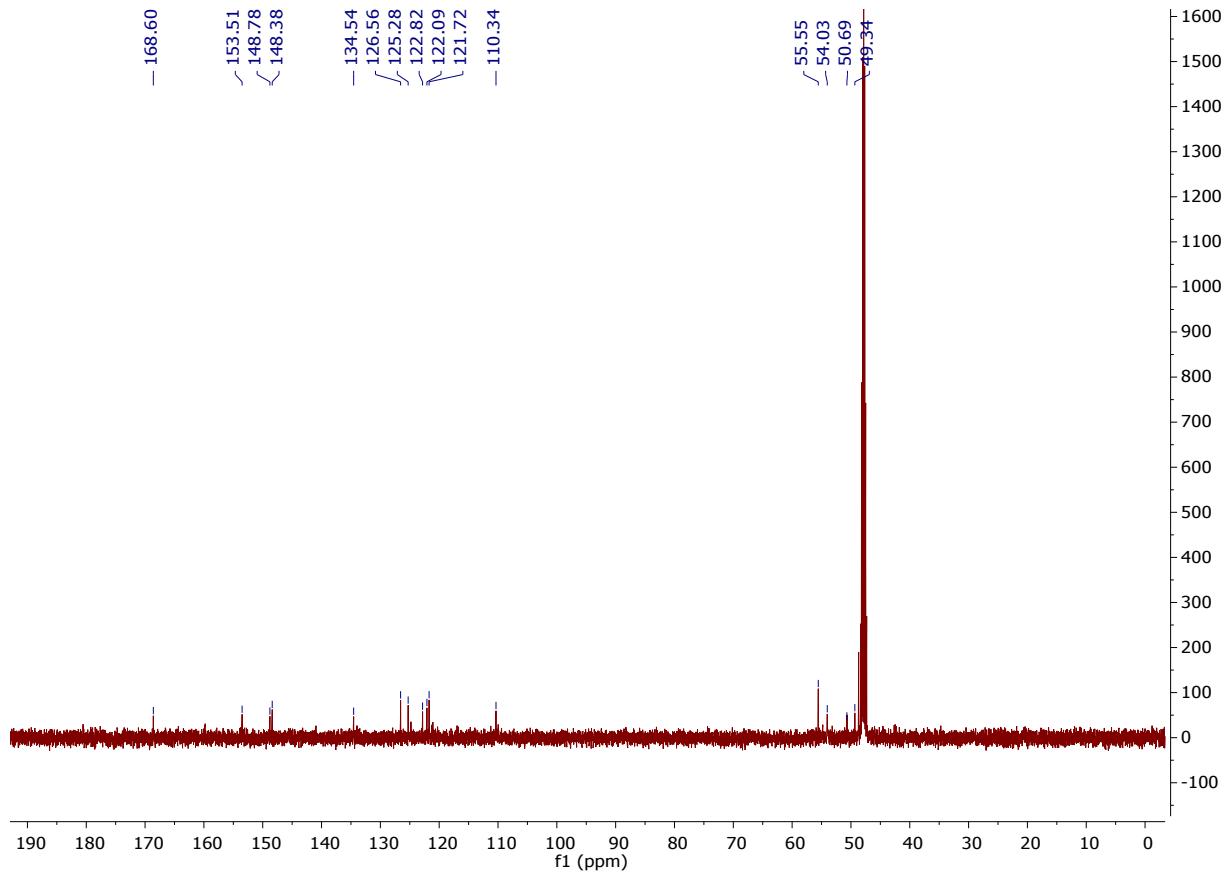
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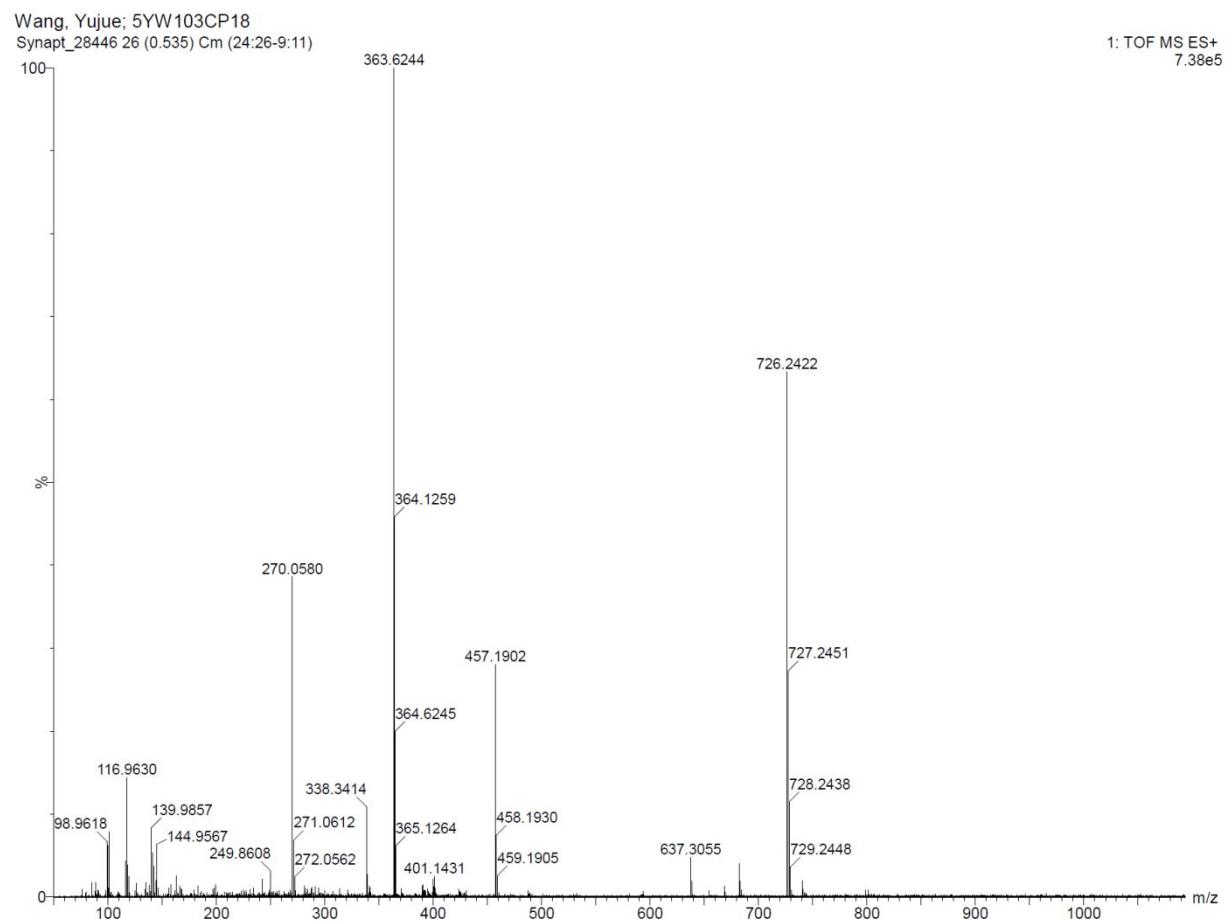
**Figure S9:** HR ESI-MS spectrum of YW-15



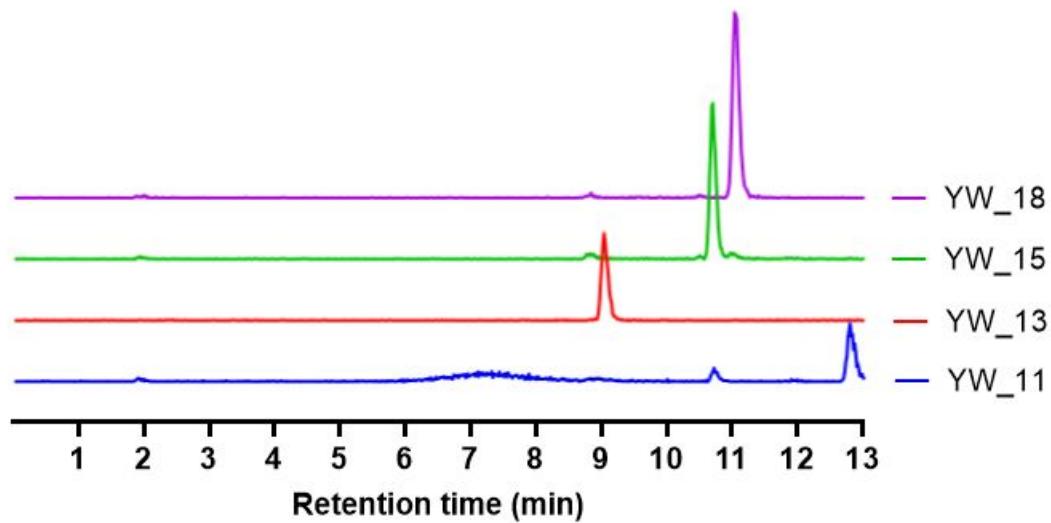
**Figure S10:**  $^1\text{H}$  NMR spectrum of YW-18



**Figure S11:** <sup>13</sup>C NMR spectrum of YW-18



**Figure S12:** HR ESI-MS spectrum of YW-18



**Figure S13:** HPLC chromatograms showing the  $^{68}\text{Ga}$  labeled radiotracers. Radio-HPLC analysis was performed with a mobile phase of water (0.1% TFA) and acetonitrile (0.1% TFA), 0–100% acetonitrile from 0 to 13 mins, and elution was run with a 1 mL/min flow rate.

**Table S1:** Biodistribution profile of  $^{68}\text{Ga}$ -labeled radiotracers in CD-1 mice. Values are expressed as mean  $\pm$  SD.

|               | $[^{68}\text{Ga}]\text{Ga-YW-11}$ |                  |                  | $[^{68}\text{Ga}]\text{Ga-YW-15}$ |                  |                    |
|---------------|-----------------------------------|------------------|------------------|-----------------------------------|------------------|--------------------|
|               | 2 min                             | 1 h              | 2 h              | 2 min                             | 1 h              | 2 h                |
| <b>Blood</b>  | 5.10 $\pm$ 1.94                   | 1.01 $\pm$ 0.17  | 1.23 $\pm$ 0.51  | 8.43 $\pm$ 0.80                   | 1.23 $\pm$ 0.20  | 0.91 $\pm$ 0.06    |
| <b>Lung</b>   | 20.99 $\pm$ 4.95                  | 10.98 $\pm$ 2.89 | 13.47 $\pm$ 1.82 | 12.52 $\pm$ 3.16                  | 2.71 $\pm$ 0.73  | 2.37 $\pm$ 1.21    |
| <b>Liver</b>  | 48.59 $\pm$ 3.05                  | 59.96 $\pm$ 2.91 | 64.18 $\pm$ 8.18 | 30.25 $\pm$ 4.02                  | 34.45 $\pm$ 6.32 | 40.47 $\pm$ 1.77   |
| <b>Kidney</b> | 1.33 $\pm$ 0.14                   | 1.44 $\pm$ 0.21  | 2.06 $\pm$ 0.06  | 9.00 $\pm$ 1.81                   | 2.35 $\pm$ 0.76  | 2.39 $\pm$ 0.61    |
| <b>Muscle</b> | 0.15 $\pm$ 0.02                   | 0.09 $\pm$ 0.02  | 0.13 $\pm$ 0.07  | 0.41 $\pm$ 0.08                   | 0.16 $\pm$ 0.03  | 0.20 $\pm$ 0.06    |
| <b>Brain</b>  | 0.10 $\pm$ 0.03                   | 0.05 $\pm$ 0.02  | 0.05 $\pm$ 0.02  | 0.26 $\pm$ 0.12                   | 0.07 $\pm$ 0.02  | 0.03 $\pm$ 0.00(3) |
| <b>Bone</b>   | 0.79 $\pm$ 0.23                   | 1.12 $\pm$ 0.07  | 1.08 $\pm$ 0.53  | 0.94 $\pm$ 0.02                   | 0.53 $\pm$ 0.06  | 1.16 $\pm$ 0.70    |
| <b>Tail</b>   | 1.63 $\pm$ 1.25                   | 5.40 $\pm$ 3.49  | 1.92 $\pm$ 1.42  | 1.84 $\pm$ 0.15                   | 5.35 $\pm$ 7.54  | 0.90 $\pm$ 0.49    |

|               | $[^{68}\text{Ga}]\text{Ga-YW-18}$ |                 |                    |
|---------------|-----------------------------------|-----------------|--------------------|
|               | 2 min                             | 1 h             | 2 h                |
| <b>Blood</b>  | 10.06 $\pm$ 1.72                  | 0.11 $\pm$ 0.01 | 0.05 $\pm$ 0.01    |
| <b>Lung</b>   | 4.20 $\pm$ 0.80                   | 0.25 $\pm$ 0.01 | 0.24 $\pm$ 0.13    |
| <b>Liver</b>  | 27.56 $\pm$ 3.60                  | 5.33 $\pm$ 0.95 | 1.36 $\pm$ 0.58    |
| <b>Kidney</b> | 4.79 $\pm$ 0.79                   | 1.09 $\pm$ 0.22 | 0.72 $\pm$ 0.14    |
| <b>Muscle</b> | 0.44 $\pm$ 0.13                   | 0.07 $\pm$ 0.01 | 0.04 $\pm$ 0.02    |
| <b>Brain</b>  | 0.33 $\pm$ 0.12                   | 0.01 $\pm$ 0.00 | 0.01 $\pm$ 0.00(3) |
| <b>Bone</b>   | 1.00 $\pm$ 0.14                   | 0.07 $\pm$ 0.02 | 0.01 $\pm$ 0.01    |
| <b>Tail</b>   | 2.36 $\pm$ 2.12                   | 0.75 $\pm$ 0.56 | 0.37 $\pm$ 0.15    |