

Electronic Supplementary Information

“Trivalent lanthanide metal ions promote formation of stacking G-quartets”

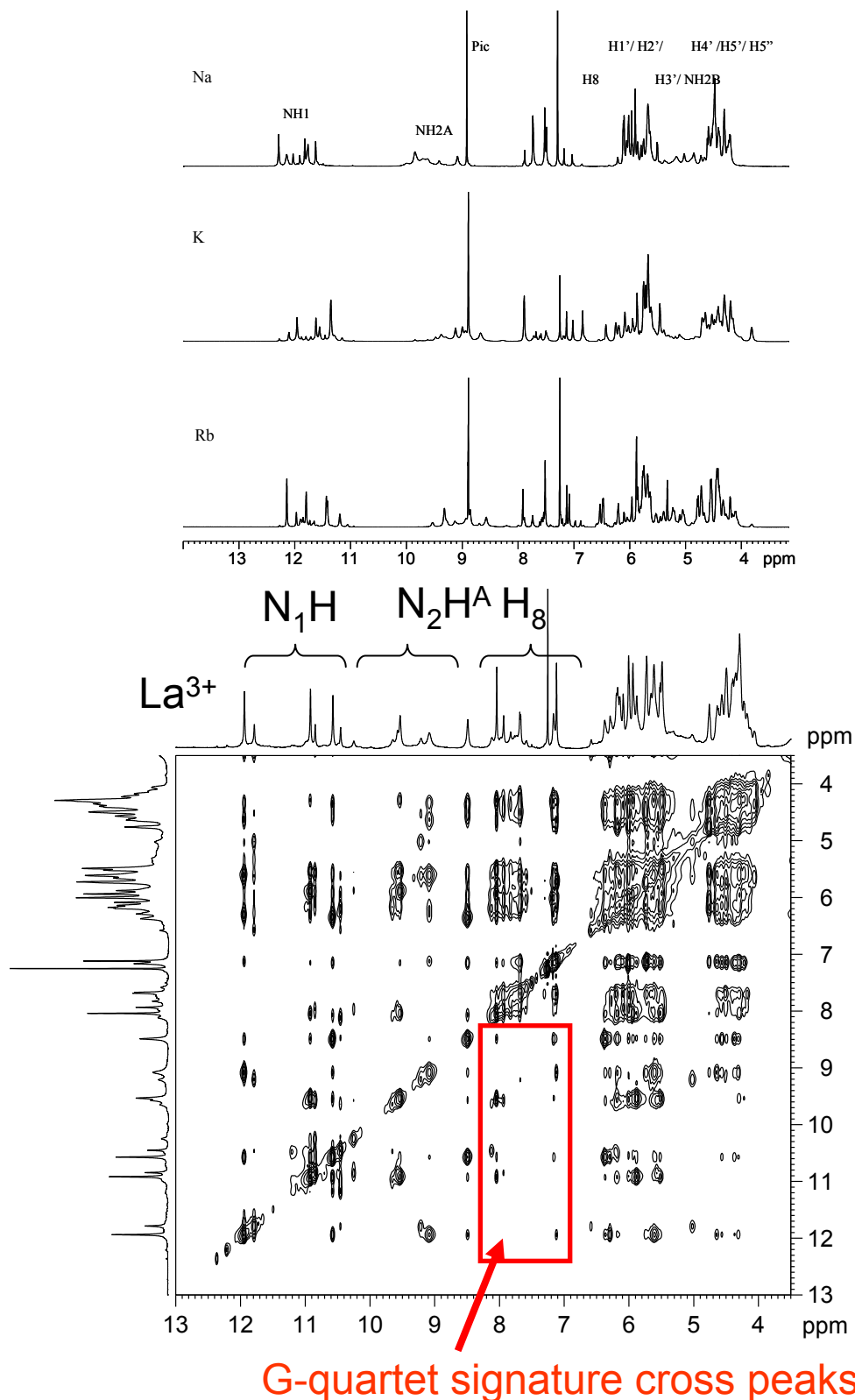
Irene C. M. Kwan, Yi-Min She, and Gang Wu*

Department of Chemistry
Queen's University
Kingston, Ontario
Canada K7L 3N6

FAX: 613 533 6669

Phone: 613 533 2644

E-mail: gang.wu@chem.queensu.ca



G-quartet signature cross peaks

Figure 1S. (Top) ^1H 1D NMR spectra of Na⁺, K⁺ and Rb⁺ complexes of triacetylguanosine (G) in CDCl_3 . (Bottom) ^1H 1D and 2D NOESY spectra of the G-La³⁺ complex in CDCl_3 . All solution-state NMR spectra were recorded on a Bruker Avance 600 MHz spectrometer and in CDCl_3 at 268.2 K. For ^1H NMR experiments, a pi-pulse of 20 μs at a power level of 0 dB was used. Spectra were obtained at various temperatures achieved carefully by a Bruker BT-3000 unit. The 2D NOESY spectra were recorded at various temperatures using the pulse program NOESYGPPH (Bruker XWinNMR Version 3.5) with a mixing time of 400 ms. The experiments were performed using the phase-sensitive TPPI mode. The data were collected using a 90° pulse of 10.0 μs and a relaxation delay of 2.0 s. Spectral width of 13,227 Hz in each dimension was employed. A total of 2 scans were collected for each time increment. Final data matrix was 2048 (F2) x 1024 (F1)

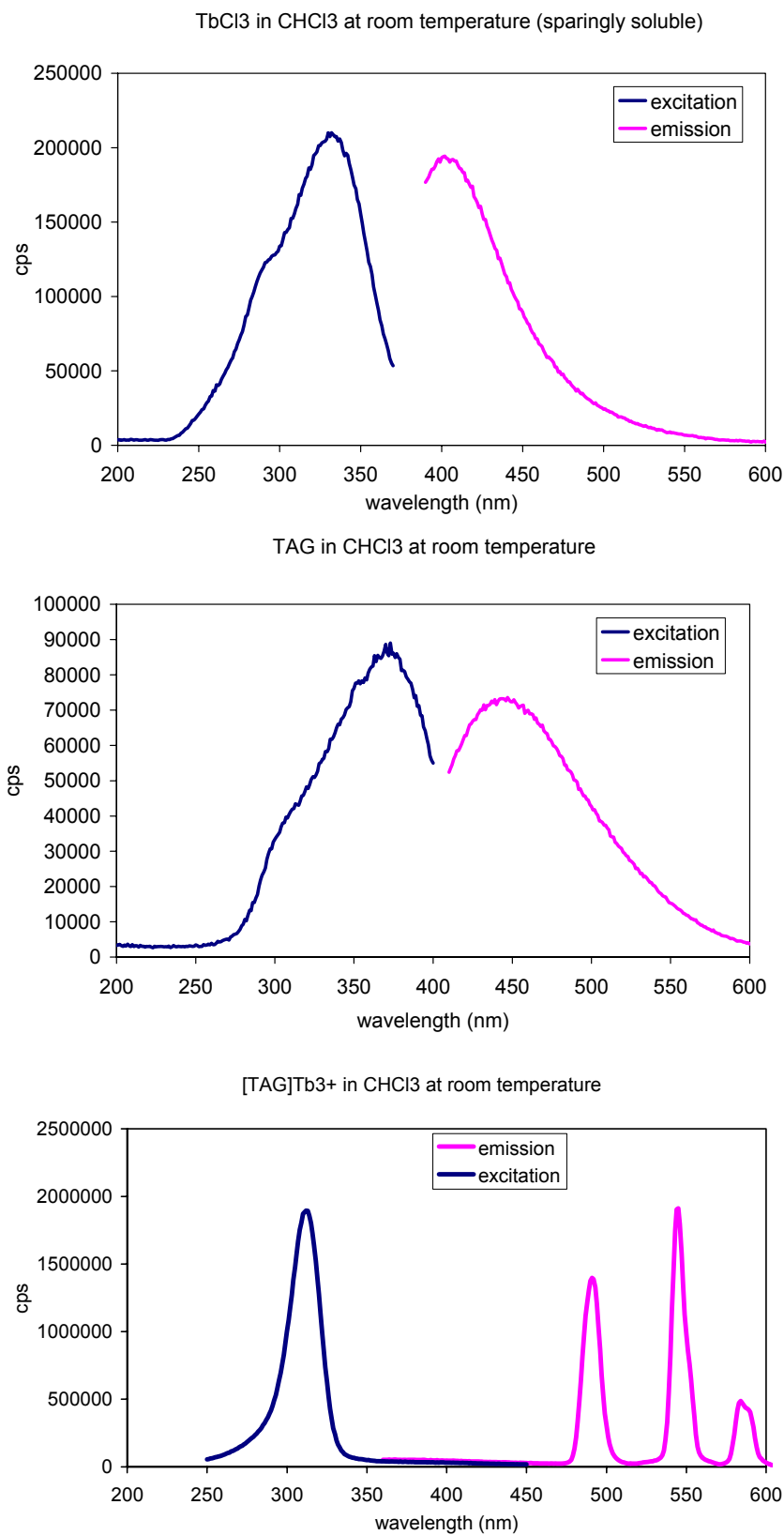


Figure 2S. Excitation and emission spectra of TbCl₃ (top), G (middle) and G-Tb complex (bottom) in CHCl₃ at room temperature.

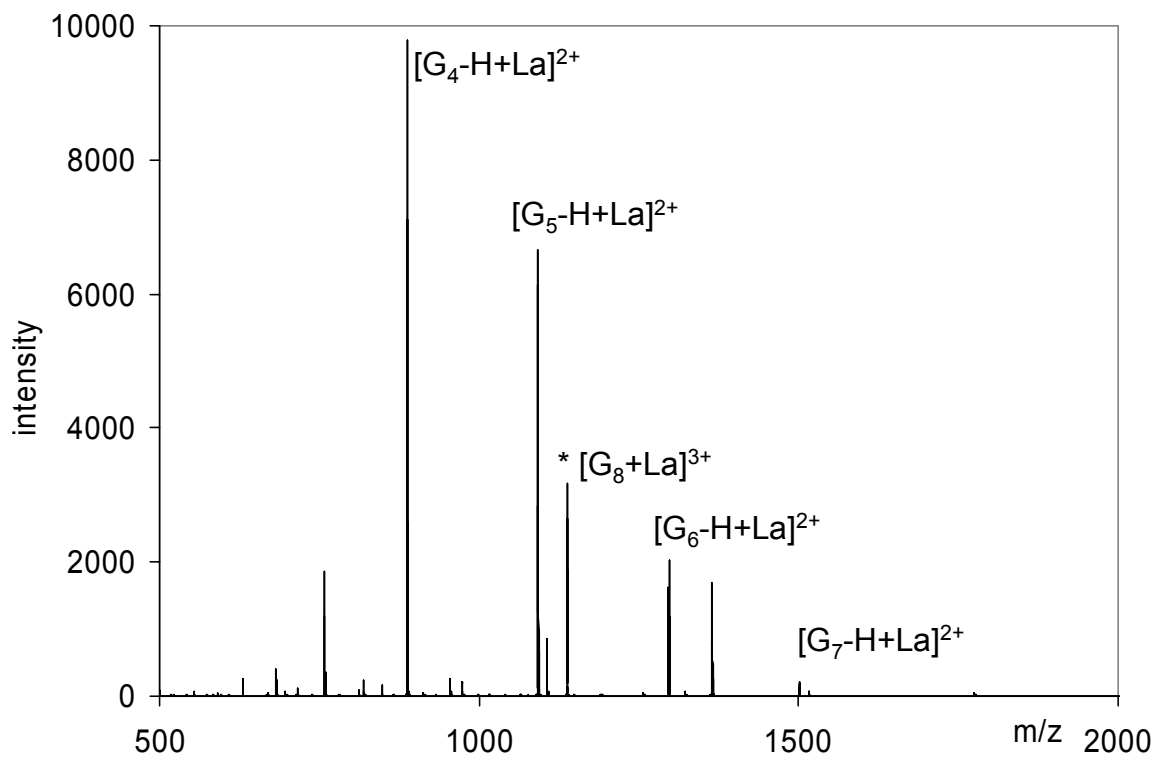
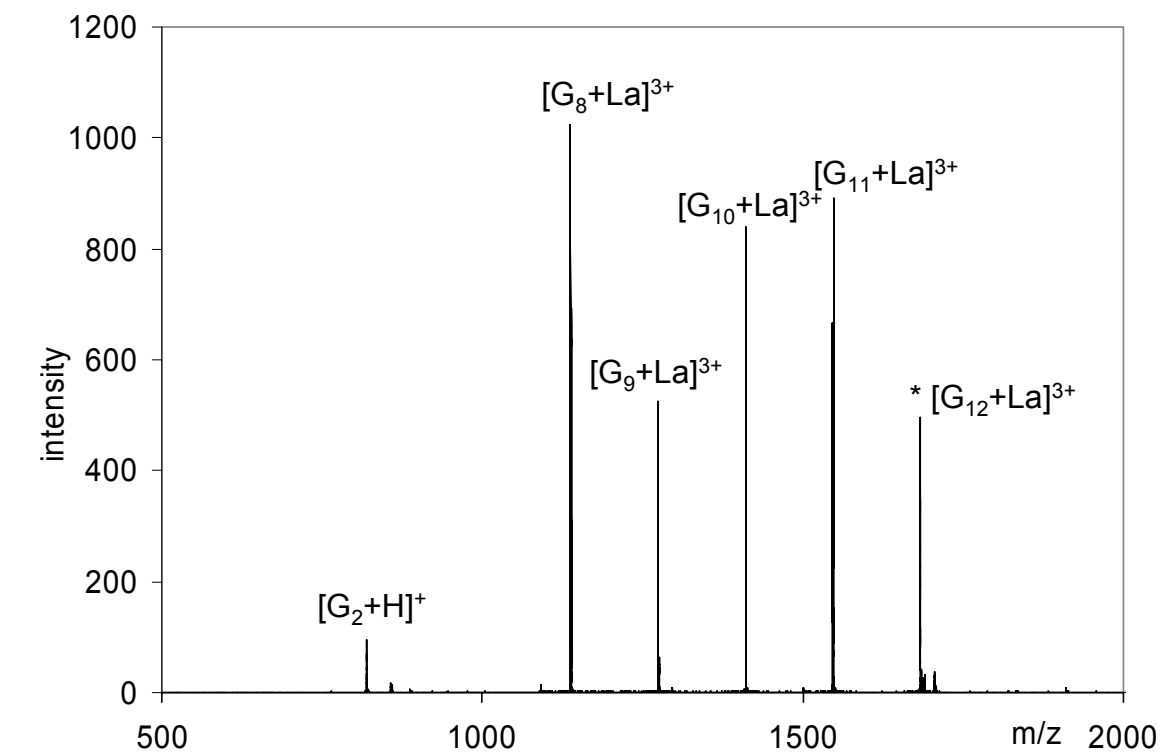


Figure 3S. ESI MS/MS spectra of the La^{3+} complex. The parent ion is marked by an asterisk *.

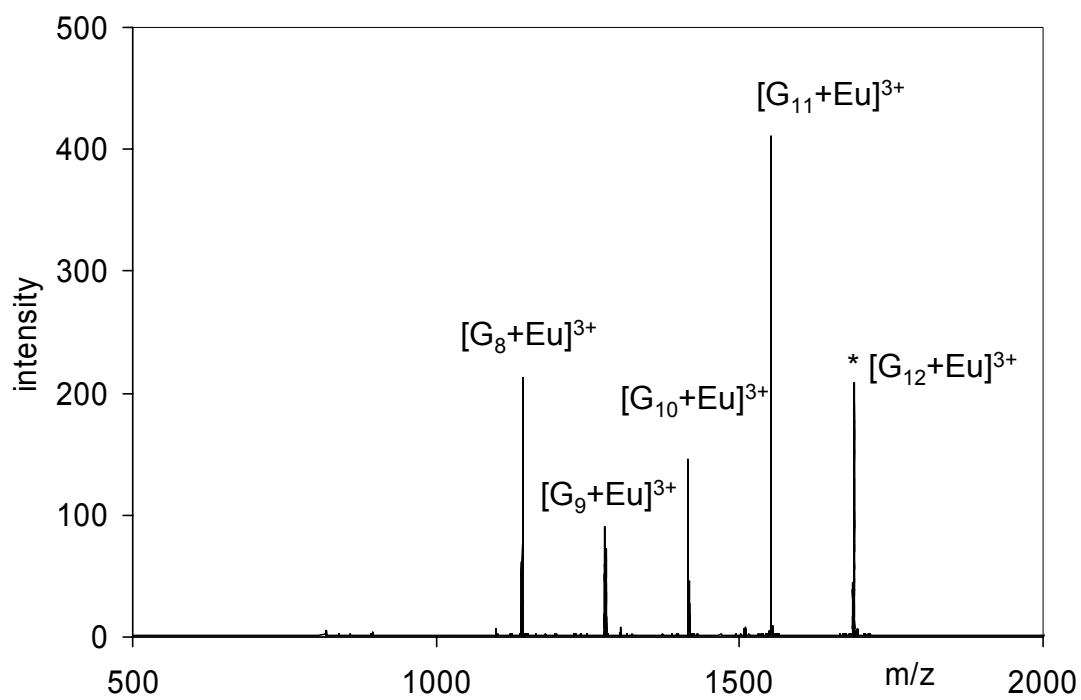


Figure 4S. ESI MS/MS spectra of the Eu^{3+} complex. The parent ion is marked by an asterisk *.

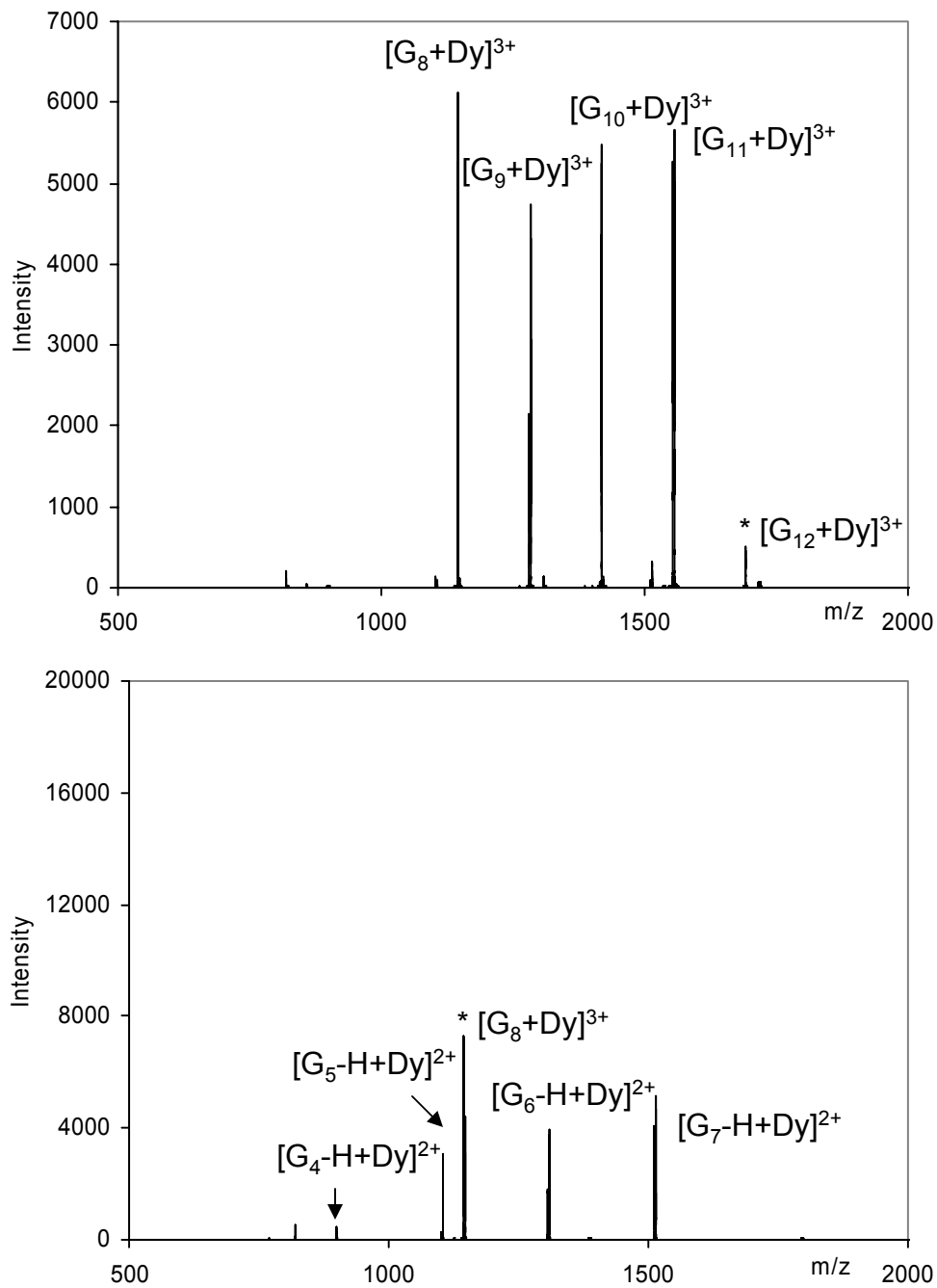


Figure 5S. ESI MS/MS spectra of the Dy³⁺ complex. The parent ion is marked by an asterisk *.

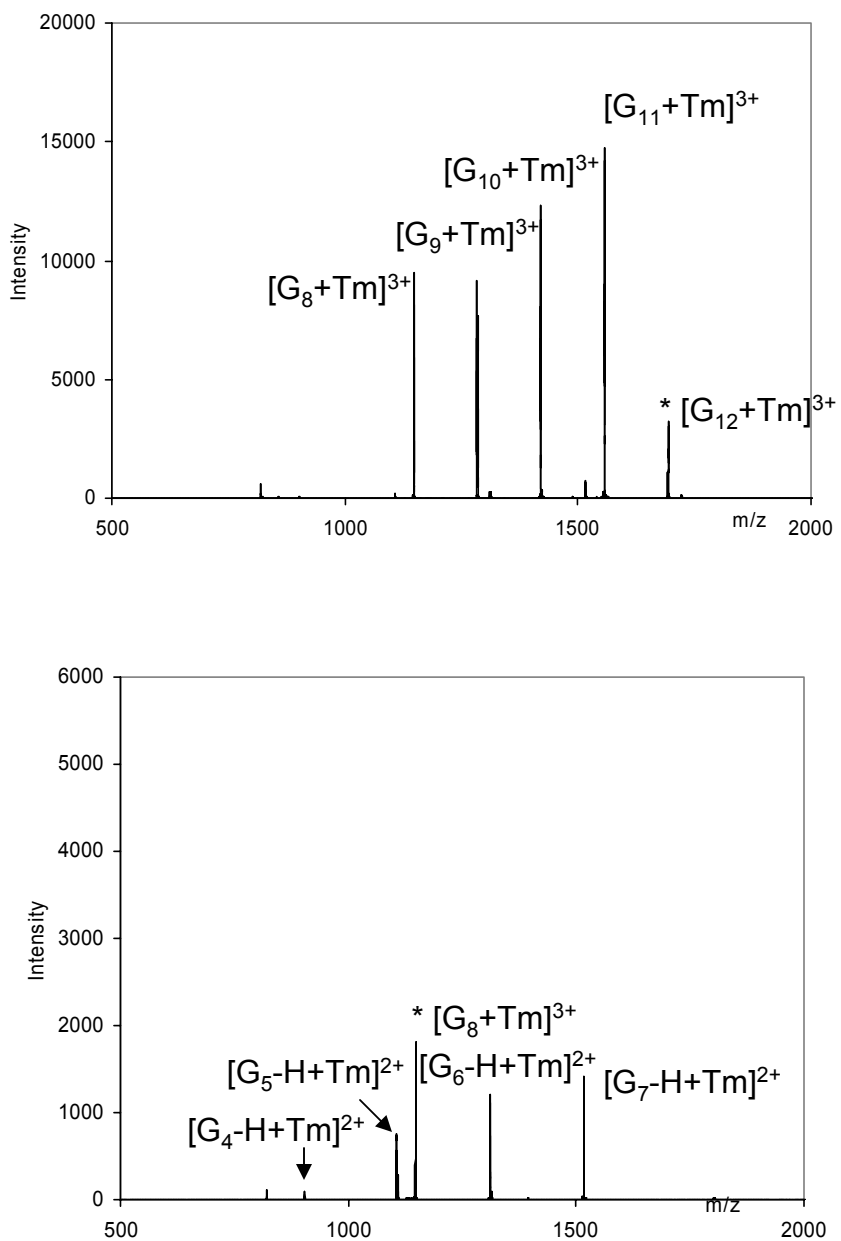


Figure 6S. ESI MS/MS spectra of the Tm³⁺ complex. The parent ion is marked by an asterisk *.