

Figure S1: Full scan MS spectrum of a (2:1) molar mixture of Carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Acquity TQ without allowing for incubation time. The signals assigned as $[OxPt + H]^+$ and $[Carnosine + OxPt + H]^+$ are each expanded and normalized to 100% in inserts A and B respectively for clarity.

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Figure S2: Full scan MS spectrum of a (2:1) molar mixture of Anserine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the XEVO TQ without allowing for incubation time. The section of the spectrum shown under "x10" signify the magnification of the signal by 10 fold for clarity. This magnification means that for example the intensity of the ion at m/z 637.2 is about 4% of the base peak.



Figure S3: Full scan MS spectrum of a (2:1) molar mixture of Anserine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the LTQ without allowing for incubation time. The sections of the spectrum shown under "x10" signify the magnification of the signal by 10 fold for clarity. This magnification means that for example the intensity of the ion at m/z 481.0 is about 2% of the base peak. The signals assigned as $[OxPt + H]^+$ and $[Anserine + OxPt + H]^+$ are each expanded and normalized to 100% in inserts A and B respectively for clarity.



Figure S4: Full scan MS spectrum of a (2:1) molar mixture of N-acetyl-carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Acquity TQ without allowing for incubation time. The signals assigned as $[OxPt + H]^+$ and $[N-acetyl-carnosine + OxPt + H]^+$ are each expanded and normalized to 100% in inserts A and B respectively for clarity.



Figure S5: Full scan MS spectrum of a (2:1) molar mixture of Carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Q-Exactive FT-MS without allowing for incubation time showing the isotopic pattern of [Carnosine + OxPt +H]⁺. The sections of the spectrum shown under "x5" signify the magnification of the signal by 5 fold for clarity. Panel A shows the experimental data wile Panel B shows the theoretically modeled spectrum using the Thermo Xcalibur software. Errors in ppm are listed next to each of the experimental isotopic peaks observed.



Figure S6: Full scan MS spectrum of a (2:1) molar mixture of Anserine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Q-Exactive FT-MS without allowing for incubation time showing the isotopic pattern of [Anserine + OxPt +H]⁺. The sections of the spectrum shown under "x10" signify the magnification of the signal by 10 fold for clarity. Panel A shows the experimental data wile Panel B shows the theoretically modeled spectrum using the Thermo Xcalibur software. Errors in ppm are listed next to each of the experimental isotopic peaks observed.



Figure S7: MS² spectrum of the ion [Carnosine + OxPt + H]⁺ generated at 25 eV in the lab frame and isolated from the full scan spectrum of a (2:1) molar mixture of Carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Acquity TQ without allowing for incubation time. Panels A, B and C show the CID patterns obtained due to the isotopes ¹⁹⁴Pt, ¹⁹⁵Pt and ¹⁹⁶Pt of [Carnosine + OxPt + H]⁺ respectively.



Figure S8: MS² spectrum of the entire isotopic envelope of the ion [Anserine + OxPt + H]⁺ generated at 25 eV in the lab frame and isolated from the full scan spectrum of a (2:1) molar mixture of Anserine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the LTQ without allowing for incubation time. The sections of the spectrum shown under "x50" signify the magnification of the signal by 50 fold for clarity. The signals assigned as $[OxPt - CO_2 + H]^+$, $[OxPt + H]^+$, $[Anserine - H + Pt(dach)]^+$ and $[Anserine + OxPt - CO_2 + H]^+$ are each expanded and normalized to 100% in inserts A through D respectively for clarity.



Figure S9: MS² spectrum of the ion [N-acetyl-carnosine + OxPt + H]⁺ generated at 20 eV in the lab frame and isolated from the full scan spectrum of a (2:1) molar mixture of N-acetyl-carnosine (NAC in this Figure) and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Acquity TQ without allowing for incubation time. Panels A, B and C show the CID patterns obtained due to the isotopes ¹⁹⁴Pt, ¹⁹⁵Pt and ¹⁹⁶Pt of [N-acetyl-carnosine + OxPt + H]⁺ respectively.



Figure S10: Tandum mass spectra of a (2:1) molar mixture of Carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the Q-Exactive FT-MS without allowing for incubation time showing the isotopic pattern of [Carnosine - H + Pt(dach)]⁺. Panel A shows the experimental data wile Panel B shows the theoretically modeled spectrum using the Thermo Xcalibur software. Errors in ppm are listed next to each of the experimental isotopic peaks observed. Errors in ppm are listed next to each of the experimental isotopic peaks observed.



Figure S11: Tandem mass spectra of the fragment ion cluster centered around m/z 580 generated and isolated from the CID of [Carnosine + OxPt + H]⁺ at 30 eV in the lab frame which is in turn isolated from the full scan spectrum of a (2:1) molar mixture of Carnosine and OxPt in a (1:1) (v/v) water/methanol solution as obtained on the LTQ.