Supporting Information

Platinum nanoparticles: an avenue for enhancing the release of nitric

oxide from S-nitroso-N-acetylpenicillamine and S-nitrosoglutathione

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Table S1 Determination of NO concentration by NO colorimetric detection kit.

Fig.S1 TEM images of Pt NPs (3nm) before (a, b) and after mixing with SNAP (c, d).

Fig.S2 UV-Vis absorption spectrum of Pt NPs.

Fig.S3 Full-scan XPS spectrum of the mixture of Pt NPs and SNAP.

Fig.S4 The proposed mechanism for the enhanced production of nitric oxide by Pt NPs (3 nm)

from SNAP and GSNO donors.

Fig.S5 a) High-resolution MS/MS spectrum of the disulfide-linked product of SNAP. Labelled molecular formulas for fragments are all less than 2 ppm mass accuracy error compared to theoretical. The mass accuracy error of the precursor ion is less than 0.5 ppm. b) Structure of the disulfide-linked product of SNAP with putative bond cleavages denoted by red and blue arrows. The arrow direction indicates which fragment ion is observed and the color of the cleavage arrow corresponds to the molecular formula labelled in the MS/MS spectrum in a).

Fig.S6 a) High-resolution MS/MS spectrum of the disulfide-linked product of GSNO. Labelled molecular formulas for fragments are all less than 2 ppm mass accuracy error compared to theoretical. The mass accuracy error of the precursor ion is less than 0.5 ppm. b) Structure of the disulfide-linked product of GSNO with putative bond cleavages denoted by colored arrows. The arrow direction indicates which fragment ion is observed and the color of the cleavage arrow corresponds to the molecular formula labelled in the MS/MS spectrum in a).

Fig.S7 Full time course data for SNAP starting material without nanoparticles. The first 25 min of this data is the same data presented in Fig.7d. The data expanded to 50 min is included to better show the decreasing relative abundance trend of the SNAP starting material over time.

Sample	Absorbance (average)	NO concentration (µM)	RSD%
250μM SNAP	0.0943	12.18	1.72
250µM SNAP+5µg/mL Pt	0.5440	72.95	0.81
250µM SNAP+50µg/mL Pt	0.9110	122.54	2.27
250μM GSNO	0.0757	9.66	4.87
250µM GSNO+5µg/mL Pt	0.3960	52.95	1.36
250µM GSNO+50µg/mL Pt	0.7427	99.79	0.56

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Fig.S2 UV-Vis absorption spectrum of Pt NPs.



Fig.S3 Full-scan XPS spectrum of the mixture of Pt NPs and SNAP.



Fig.S4 The proposed mechanism for the enhanced production of NO by Pt NPs (3nm) from SNAP and GSNO donors.



Fig.S5 a) High-resolution MS/MS spectrum of the disulfide-linked product of SNAP. Labelled molecular formulas for fragments are all less than 2 ppm mass accuracy error compared to theoretical. The mass accuracy error of the precursor ion is less than 0.5 ppm. b) Structure of the disulfide-linked product of SNAP with putative bond cleavages denoted by red and blue dashed arrows. The arrow direction indicates which fragment ion is observed and the color of the dashed arrow corresponds to the molecular formula labelled in the MS/MS spectrum in a).



Fig.S6 a) High-resolution MS/MS spectrum of the disulfide-linked product of GSNO. Labelled molecular formulas for fragments are all less than 2 ppm mass accuracy error compared to

theoretical. The mass accuracy error of the precursor ion is less than 0.5 ppm. b) Structure of the disulfide-linked product of GSNO with putative bond cleavages denoted by dashed colored arrows. The arrow direction indicates which fragment ion is observed and the color of the dashed arrow corresponds to the molecular formula labelled in the MS/MS spectrum in a).



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