

## SUPPORTING INFORMATION

# Platinum Palladium Bimetallic Nanozymes Stabilized with Vancomycin for the Sensitive Colorimetric Determination of L-cysteine

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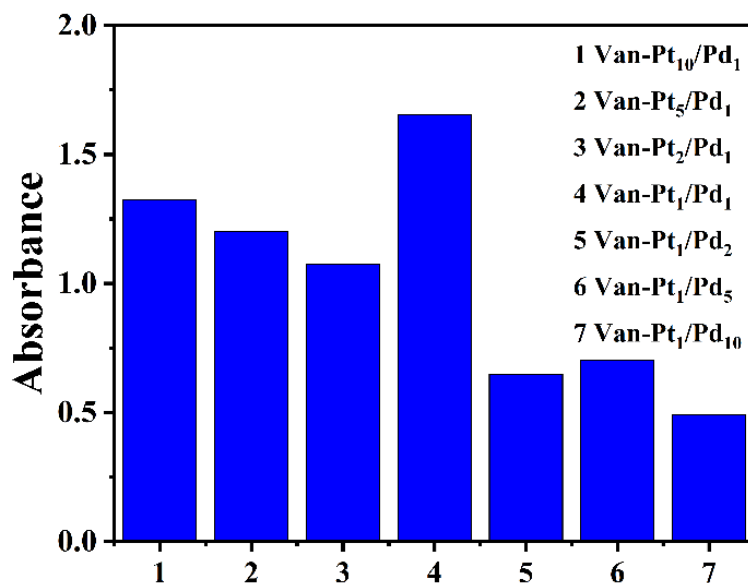
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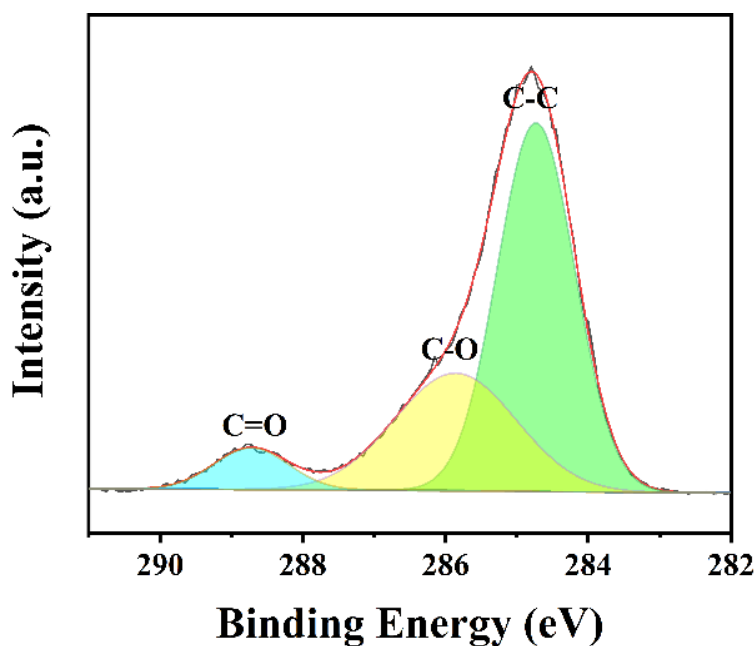
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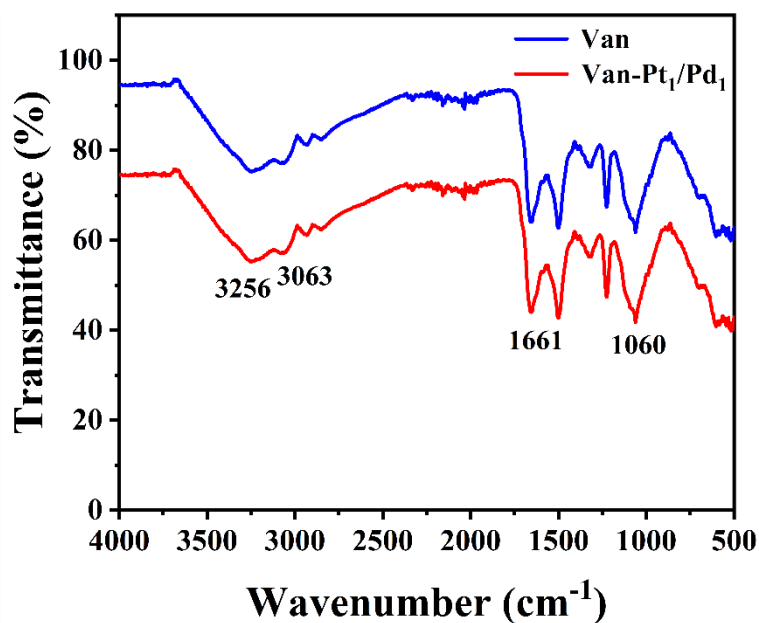
**Figure S1.** Oxidase-like activity of Van-Pt<sub>m</sub>/Pd<sub>n</sub> NPs with different ratios of Pt and Pd at 652 nm.



**Figure S2.** High resolution XPS spectrum of C.

As shown in Figure S3, infrared spectra of Van and Van-Pt<sub>1</sub>/Pd<sub>1</sub> NPs were determined by Fourier transform infrared spectrometer. There are four distinct peaks at 3256 cm<sup>-1</sup>, 3063 cm<sup>-1</sup>, 1661 cm<sup>-1</sup> and 1060 cm<sup>-1</sup>, respectively. Among them, 3256 cm<sup>-1</sup> and 3036 cm<sup>-1</sup> are caused by O-H stretching vibration and C-H stretching vibration on the benzene ring, respectively. The characteristic peaks of 1060 cm<sup>-1</sup> and 1661 cm<sup>-1</sup> are R-O-R and R-CO-NH<sub>2</sub> in the free Van spectrum, respectively[1]. The infrared spectra of

Van and Van-Pt<sub>1</sub>/Pd<sub>1</sub> NPs showed consistency in peak positions, which indicated that the Pt<sub>1</sub>/Pd<sub>1</sub> NPs were attached to the Van and had a stable structure.



**Figure S3.** Infrared spectra of Van and Van-Pt<sub>1</sub>/Pd<sub>1</sub> NPs

## References

1. Abdelaziz, M. M.; Hefnawy, A.; Anter, A.; Abdellatif, M. M.; Khalil, M. A. F.; Khalil, I. A., Respirable spray dried vancomycin coated magnetic nanoparticles for localized lung delivery. *Int. J. Pharm.* **2022**, *611*, 121318.