

## SUPPLEMENTARY

### **3D-Printed Diamond-Titanium Composite: A Hybrid Material for Implant Engineering**

Kate Fox<sup>a,b,^</sup>, Nour Mani<sup>a\*</sup>, Aaqil Rifai<sup>a\*</sup>, Philipp Reineck<sup>c</sup>, Alan Jones<sup>b</sup>, Phong A. Tran<sup>d</sup>, Ali Ramezannejad<sup>a,b</sup>, Milan Brandt<sup>a,b</sup>, Brant C. Gibson<sup>c</sup>, Andrew D. Greentree<sup>c</sup> and Nhiem Tran<sup>e,^</sup>

<sup>a)</sup> School of Engineering, RMIT University, VIC Australia

<sup>b)</sup> Centre for Additive Manufacturing, RMIT University, VIC, Australia

<sup>c)</sup> ARC Centre of Excellence for Nanoscale BioPhotonics, School of Science, RMIT University, VIC, Australia

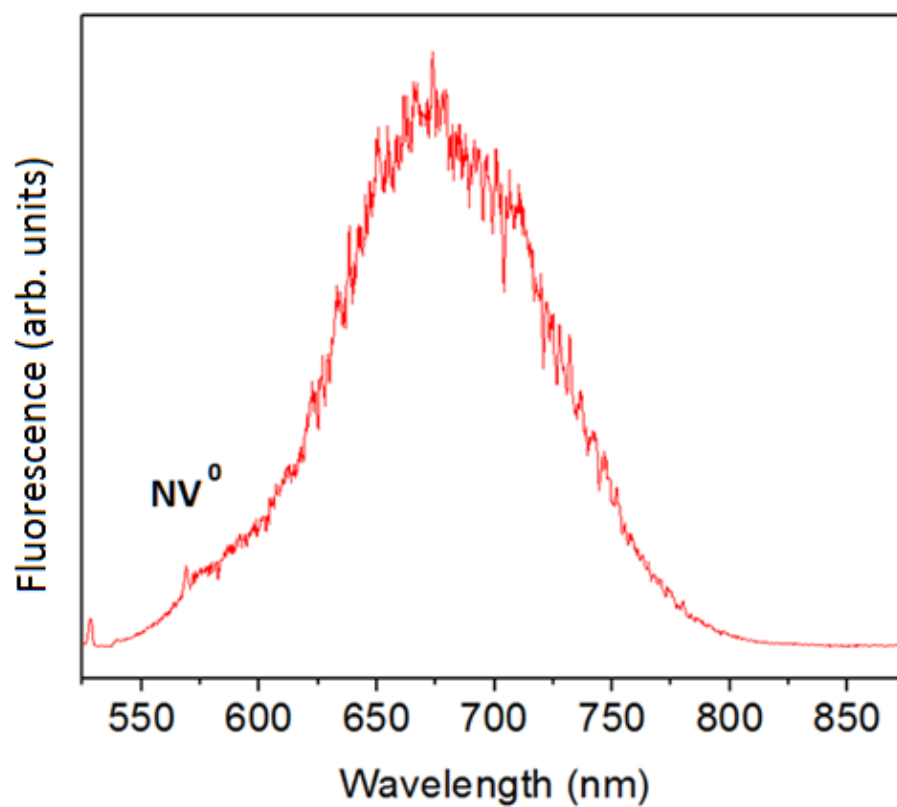
<sup>d)</sup> Institute of Health and Biomedical Innovation, Queensland University of Technology, Kelvin Grove, QLD 4059, Australia

<sup>e)</sup> School of Science, RMIT University, VIC Australia

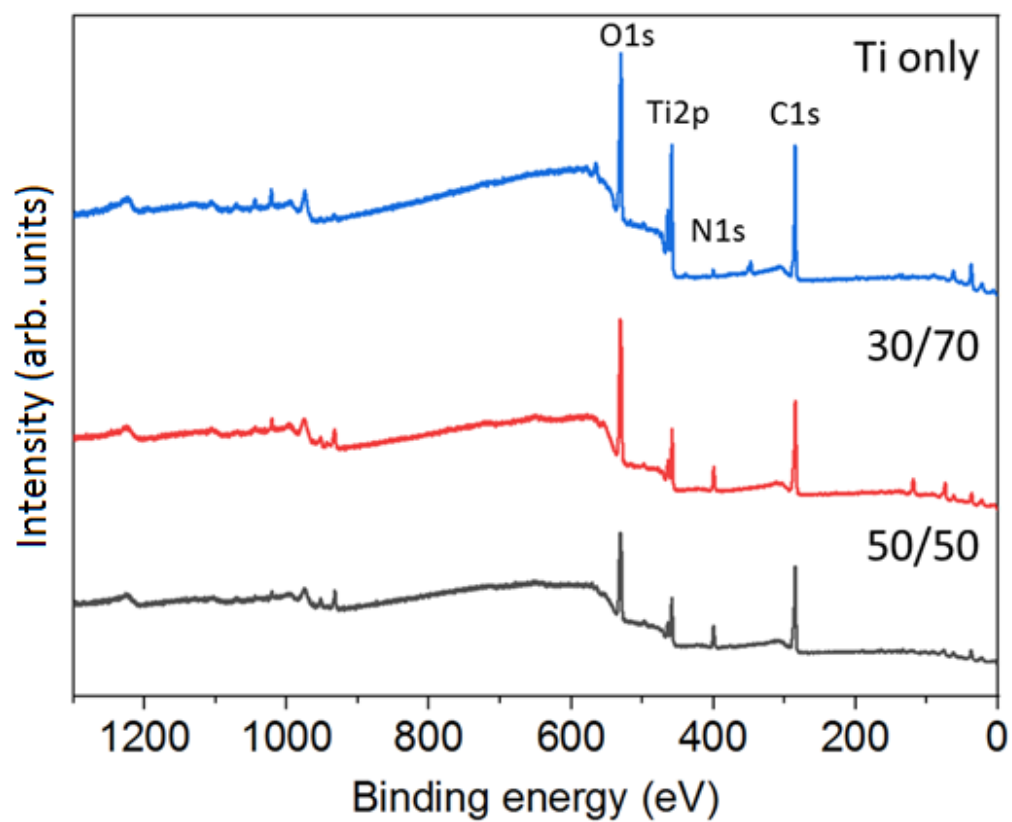
<sup>^</sup> Corresponding Author Email: [kate.fox@rmit.edu.au](mailto:kate.fox@rmit.edu.au); [Nhiem.tran@rmit.edu.au](mailto:Nhiem.tran@rmit.edu.au)

\* These authors contributed equally and are arranged alphabetically

**SupplVideo1:** Video file of laser metal deposition of 50/50 DiT



**Figure S1:** The characteristic spectra of the DTi when focused on one of the bright spots detected by the confocal microscope, the characteristic zero photon line shows the neutral  $NV^0$  peak at approximately 575nm



**Figure S2:** The XPS survey spectra for the D-Ti and Ti samples