

## Supplementary Material

### **Field emission performance of graphene incorporated aluminum based metal matrix composite**

Sunil Kumar Pradhan<sup>a\*</sup>, Pandiyarajan K<sup>b</sup>, Shubham Patil<sup>c</sup>, Padmakar G. Chavan<sup>c</sup>, Raphael Longuinhos Monteiro Lobato<sup>d</sup>, Jenaina Ribeiro-Soares<sup>d\*</sup>, Dattatray J. Late<sup>d\*</sup>

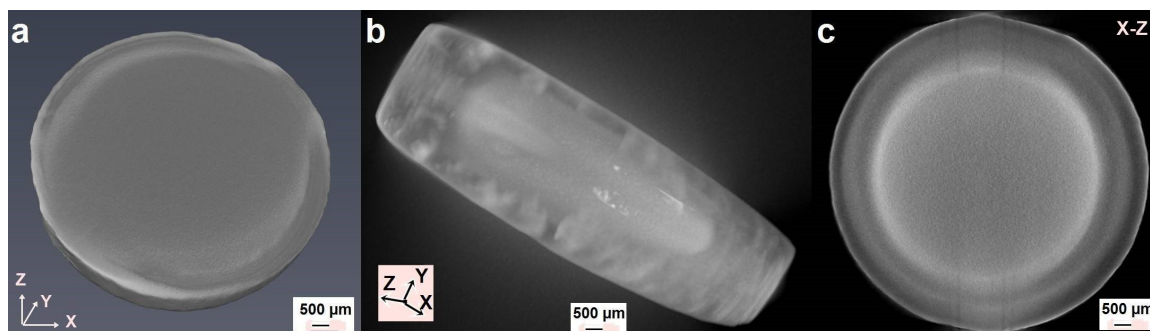
<sup>a</sup>School of Electronics Engineering, Vellore Institute of Technology, Chennai-600127 India

<sup>b</sup>School of Advanced Sciences, Vellore Institute of Technology, Chennai 600127, India

<sup>c</sup>Department of Physics, School of Physical Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon 425001, India

<sup>d</sup>Departamento de Física, Universidade Federal de Lavras, Campus Universitário, PO Box 3037, Lavras, Minas Gerais 37200-000, Brazil

#### Figure S1



**Figure S1: X-ray computed micro tomography (micro-CT) examination of aluminium-graphene sintered composite (AlGr1) (a) surface tomographic image (b) internal tomographic image (c) image of tomographic slice taken through centre of the specimen**

**Figure S2**

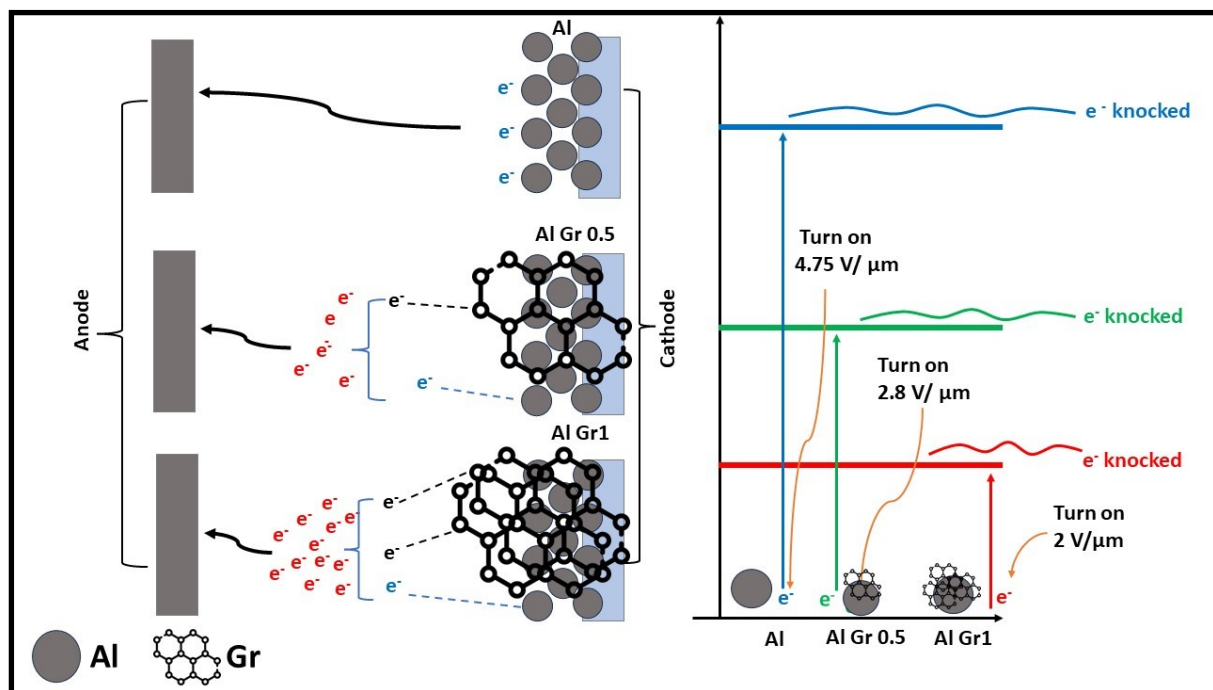


Figure S2: Field emission mechanisms of Al-graphene matrix.