Electronic Supplementary Material (ESI) for Analyst.

Supplementary Information

Microdistribution and quantification of the boron neutron capture therapy drug BPA in primary cell cultures of human glioblastoma tumour by NanoSIMS

Samar Aldossari1,2, Greg McMahon2,3,4, Nicholas P. Lockyer 1,2, Katie L. Moore 2,3

1School of Chemistry, University of Manchester, Oxford Rd, Manchester M13 9PL.

2Photon Science Institute, University of Manchester, Oxford Rd, Manchester M13 9PL

3School of Materials, University of Manchester, Oxford Rd, Manchester M13 9PL.

4 Current address: National Physical Laboratory, National Centre of Excellence in Mass Spectrometry Imaging, Hampton Rd., Teddington, TW11 0LW

Nick.Lockyer@manchester.ac.uk

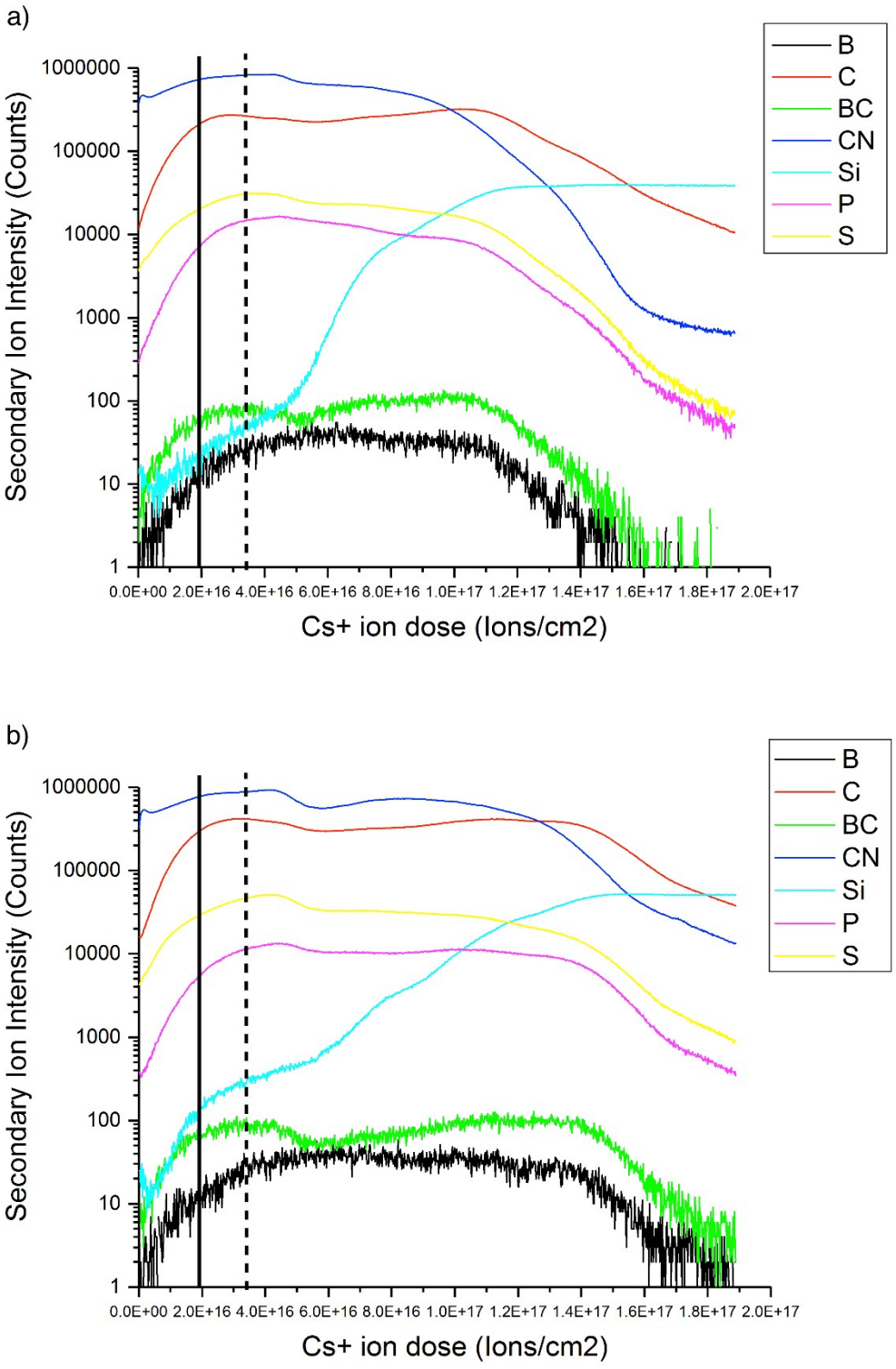

Figure S1: Depth profiles from a 40×40 µm^2 image of a tumour cell showing the changes in intensity of negative secondary ions: ^{10}B, ^{12}C, ^{10}B^{12}C, ^{12}C^{14}N, ^{29}Si, ^{31}P and ^{32}S with Cs$^+$ ion beam dose. Intensities extracted from a) the nucleus and b) the cytoplasm. Solid line indicates the implantation dose used (1.9x10^{16} Cs$^+$ ions/cm^2) while the dotted line indicates the dose where analysis was stopped (1.4x10^{16} Cs$^+$ ions/cm^2).

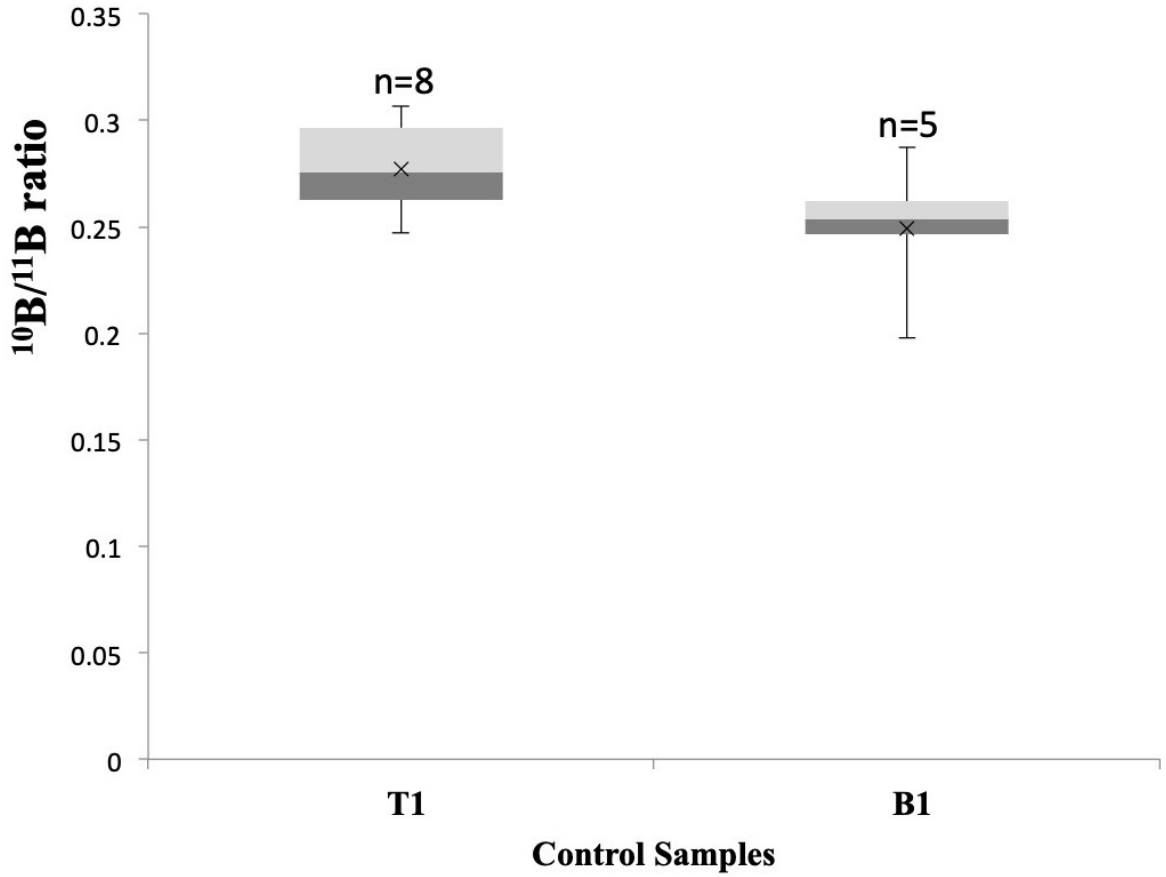

Figure S2: $^{10}B/^{11}B$ ratios from the control samples, T1 and B1, showing the natural isotope ratio (0.25). The ratio has been calculated from the whole cell. Different cells were analysed for this measurement compared to the cells analysed in Figure 4.