Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Raman cell imaging with boron cluster molecules conjugated with biomolecules

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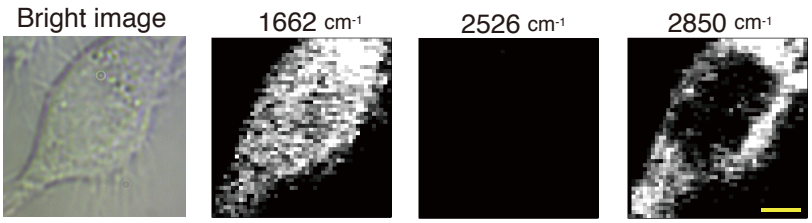

Figure S1. Raman imaging of cells exposed to BSH (200 ppm for 2 h); bright image and Raman images at 1662 (protein), 2526 (boron clusters), and 2850 cm^{-1} (lipid molecules).

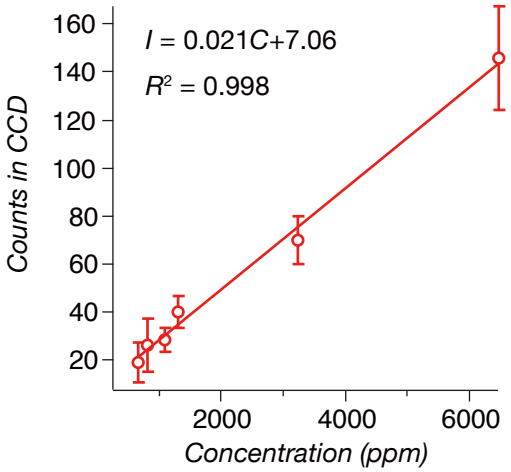

Figure S2. Relation between concentration of BSH-Chol in ethanol and counts in CCD.

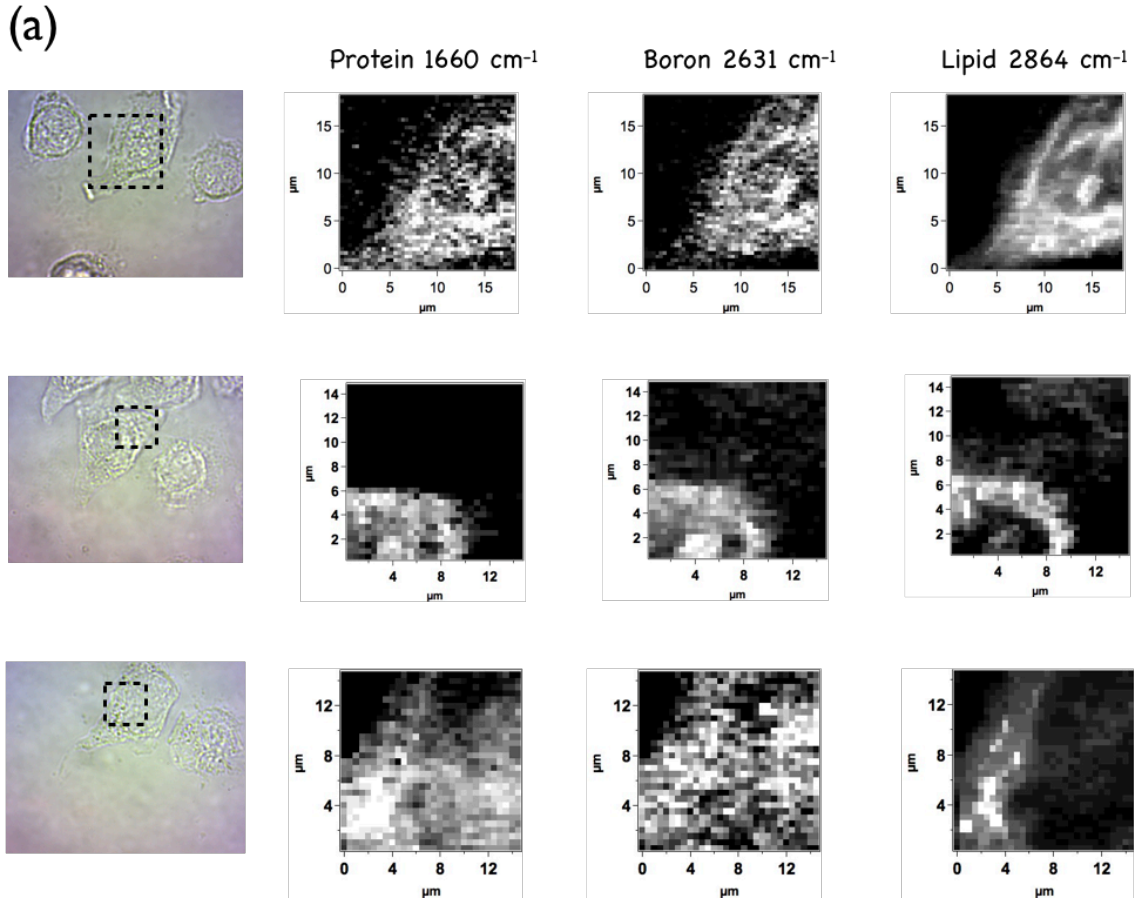
(a)
Protein 1660 cm-1
Boron 2631 cm-1
Lipid 2864 cm-1
(b)
Protein 1660 cm-1
Alkyne 2205 cm-1
Boron 2631 cm-1
Lipid 2864 cm-1
µm

Figure S3 Results of Raman imaging of cells exposed to (a) BSH-Chol and (b) ZL-1013/MB

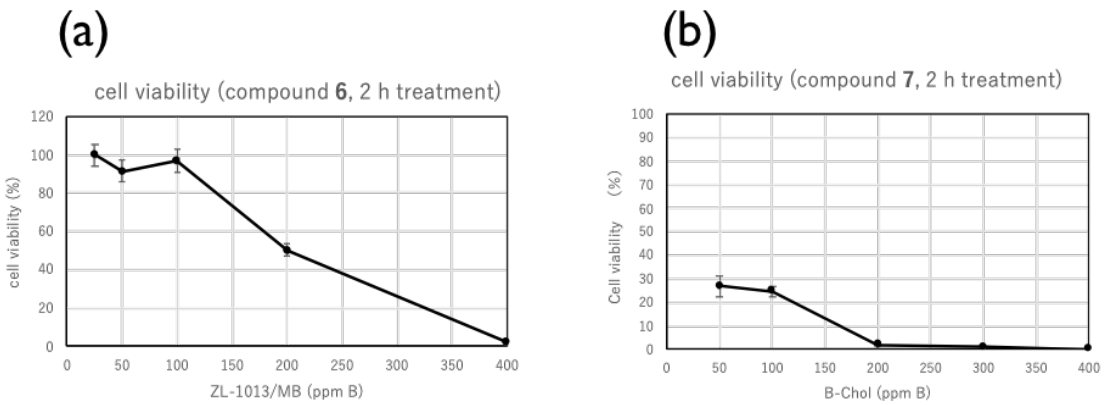

Figure S4 (a) The results of the MTT assay using (a) Compound **6** (ZL-1013/MB) and (b) BSH-Chol. HeLa cells were seeded at the density of 1 × 10^5 cells / ml x 100 μL were plated on a 96 well plate. After 12 h incubation under 5% CO_2 at 37 ° C, each boron compound sample solution was added (final concentration 50 -200 ppm B), and the cells were incubated (for 10 min-120 min). After removing the boron compound solution, MTT solution in medium (final 0.5 mg/mL, 100 μL) was added and incubated for 90 min. The cells were rinsed by DMSO, and absorbance was measured (535 nm). The MTT assay revealed that cell viability with the condition of the exposure in the experiments were 50 and 3.3 %, respectively. In the experiment, we also confirmed that some cells lost their native shapes. Therefore, we carefully selected the cells that maintained their native shapes for Raman imaging.