

Supporting information:

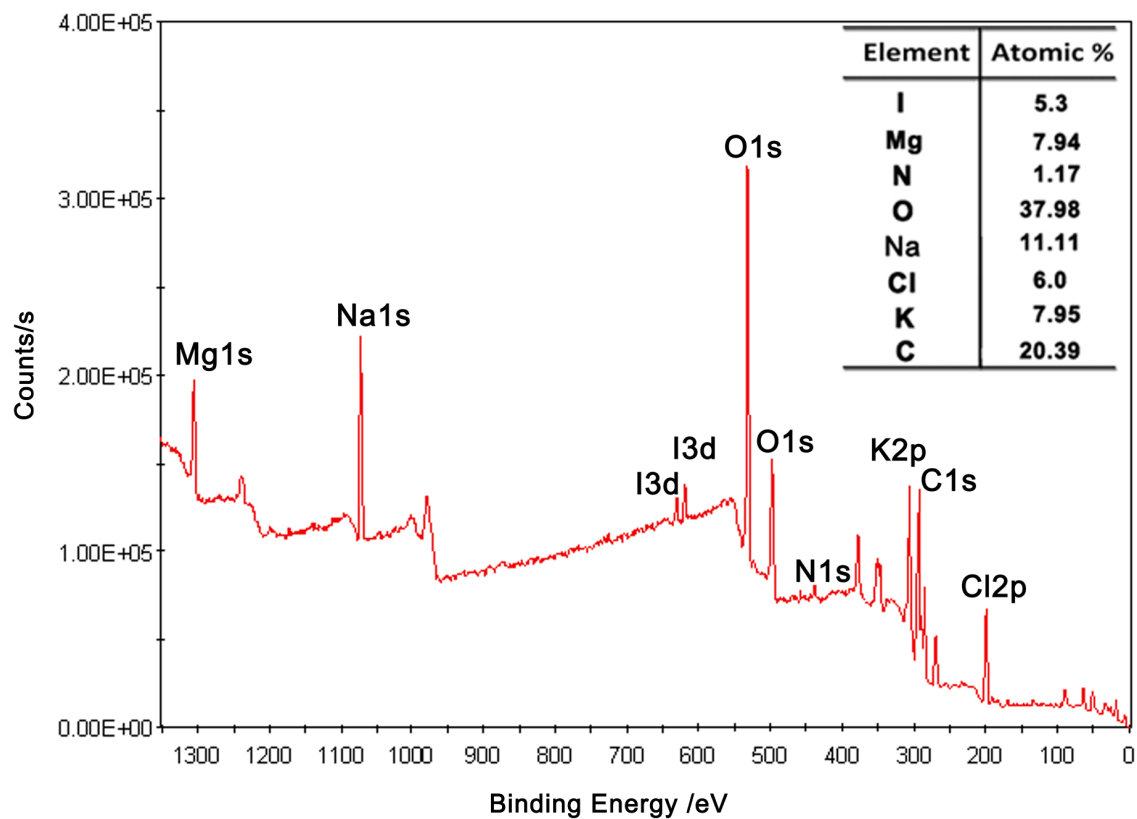


Figure S1. XPS pattern in all elements binding energy region of *kelp*, with the inset of atomic contents of each element.