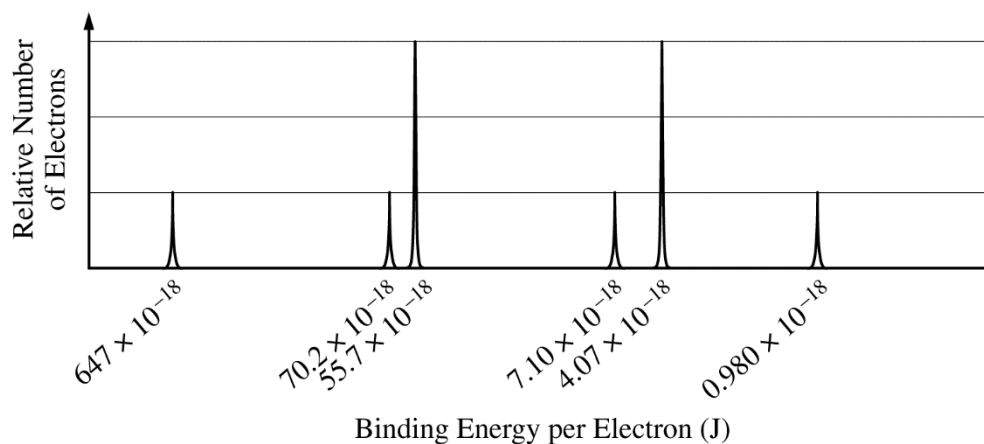


2019 AP[®] CHEMISTRY FREE-RESPONSE QUESTIONS

5. The complete photoelectron spectrum of an element in its ground state is represented below.



- (a) Based on the spectrum,
- write the ground-state electron configuration of the element, and
 - identify the element.
- (b) Calculate the wavelength, in meters, of electromagnetic radiation needed to remove an electron from the valence shell of an atom of the element.