

# Energy Levels and Transition Rates for Laser Cooling $\text{Os}^-$ and a General Approach to Produce Cold Atoms and Molecules

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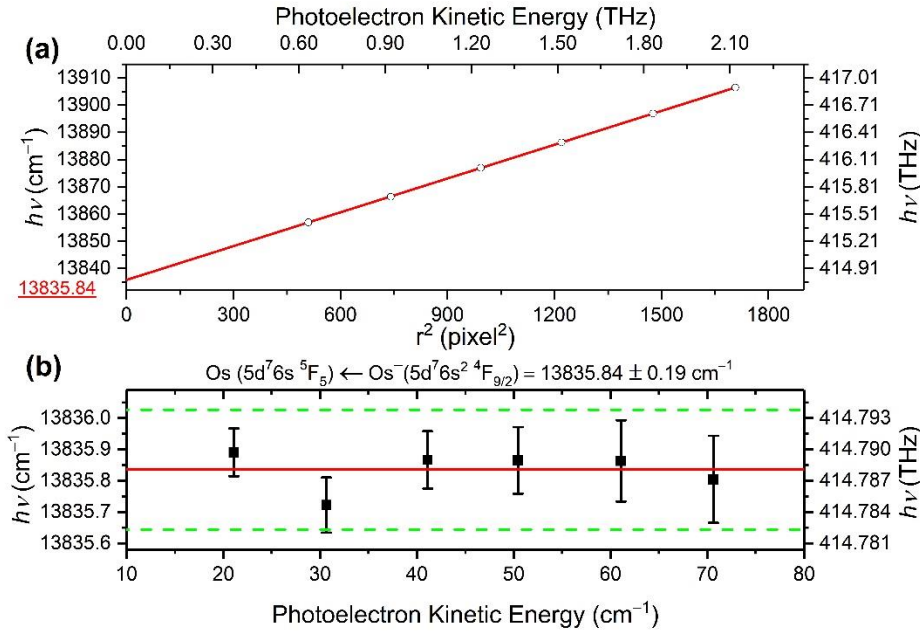


Fig. S1. (a) The photon energy  $h\nu$  versus the squared radius  $r^2$  for the photodetachment channel  $l$ .  $r$  is the radius of the photoelectron shell. The solid line is the linear least squares fitting. The intercept  $13835.84$  cm<sup>-1</sup> ( $414.7880$  THz) is the binding energy (BE) of transition  $l$  via the equation  $\text{BE} = h\nu - \alpha r^2$ . Here  $\alpha$  is the energy calibration coefficient. (b) The uncertainty of the binding energy of  $\text{Os } ^5F_5 \leftarrow \text{Os}^- ^4F_{9/2}$  versus the kinetic energy of the photoelectrons