



**Figure S1.** Wavelength- and time-resolved spectra recorded for (A) 1.0  $\mu\text{g}$  of P introduced as standard solution with 10  $\mu\text{g Au}$  / 15  $\mu\text{g Ca}$ ; and (B) 1.1 mg of CRM NIST 1547 with 10  $\mu\text{g Au}$  under the temperature conditions described in Table 1.