**Supplementary Materials**



Figure S1. Photographs of the (a1) (NH4)2SO4, (a2) NaNO3, (a3) KClO3, and (a4) CaCO3 on aluminum plate substrate. Photographs of the (b1) NaNO3, (b2) CaCO3, (b3) KClO3, and (b4) (NH4)2SO4 on woodblock (black rectangle), paperboard (red rectangle), black cloth (white rectangle), and leaf (yellow rectangle) substrate.



Figure S2. Mean Raman spectra for (a) 0.3 mg, (b) 0.5 mg, and (c) 1 mg of KClO3 on woodblock (black line), paperboard (red), cloth (green), leaves (blue), and aluminum plate (royal blue) substrate for a remote distance of 10 m.



Figure S3. Mean Raman spectra for (a) 0.3 mg, (b) 0.5 mg, and (c) 1 mg of NaNO3 on woodblock (black line), paperboard (red), cloth (green), leaves (blue), and aluminum plate (royal blue) substrate for a remote distance of 10 m.



Figure S4. Mean Raman spectra for (a) 0.3 mg, (b) 0.5 mg, and (c) 1 mg of CaCO3 on woodblock (black line), paperboard (red), cloth (green), leaves (blue) and aluminum plate (royal blue) substrate for a remote distance of 10 m.



Figure S5. Mean Raman spectra for (a) 0.3 mg, (b) 0.5 mg, and (c) 1 mg of (NH4)2SO4 on woodblock (black line), paperboard (red), cloth (green), leaves (blue), and aluminum plate (royal blue) substrate for a remote distance of 10 m.