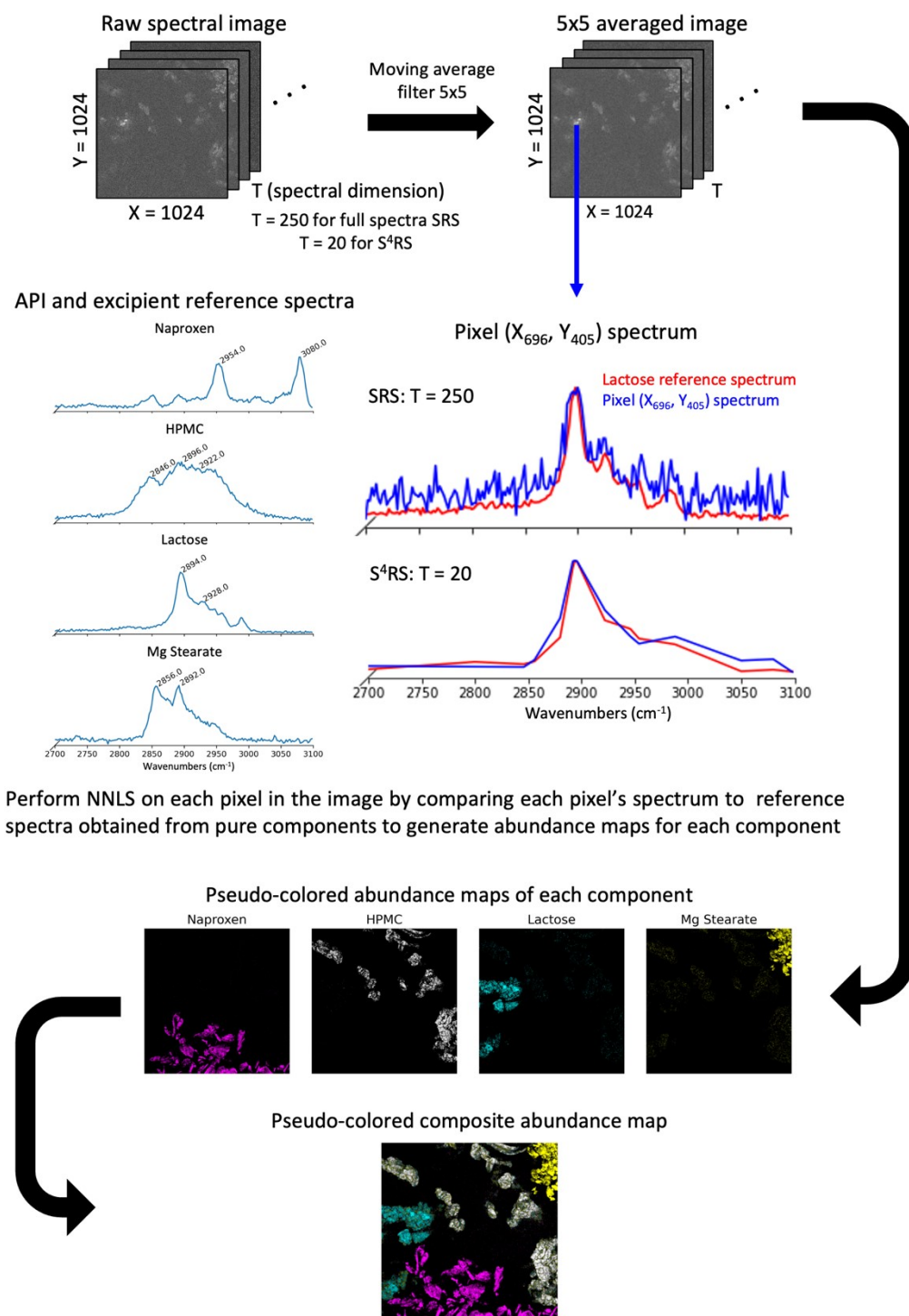


Supplementary Information

Supplementary Figures



Supplementary Figure 1: Spectral unmixing methodology, demonstrated with a known spatial mix of API and excipient powders.

Supplementary Tables

Raman Band (cm ⁻¹)	Probable molecular assignment
1350	background
1360	background
1394	naproxen CH ₃ bending
1420	background
1440	background
2700	background
2800	background
2846	HPMC CH ₂ asymmetric stretching
2856	Mgst CH ₂ stretching
2880	HPMC CH stretching
2892	lactose CH ₂ stretching, HPMC CH stretching, Mgst CH ₃ stretching
2894	lactose CH ₂ stretching, HPMC CH stretching, Mgst CH ₃ stretching
2896	lactose CH ₂ stretching, HPMC CH stretching, Mgst CH ₃ stretching
2922	lactose CH stretching, HPMC CH ₂ symmetric stretching
2946	naproxen CH ₃ stretching, HPMC CH ₂ symmetric stretching
2954	naproxen CH ₃ stretching, HPMC CH ₂ symmetric stretching
2988	lactose CH stretching
3050	background
3080	naproxen aromatic CH stretching
3098	background

Supplementary Table 1: Probable molecular structure assignments for each of 20 manually selected sparse wavenumbers.