

Supporting Information

Lanthanide and Ladder-Structured Polysilsesquioxane Composites for Transparent Color Conversion Layers

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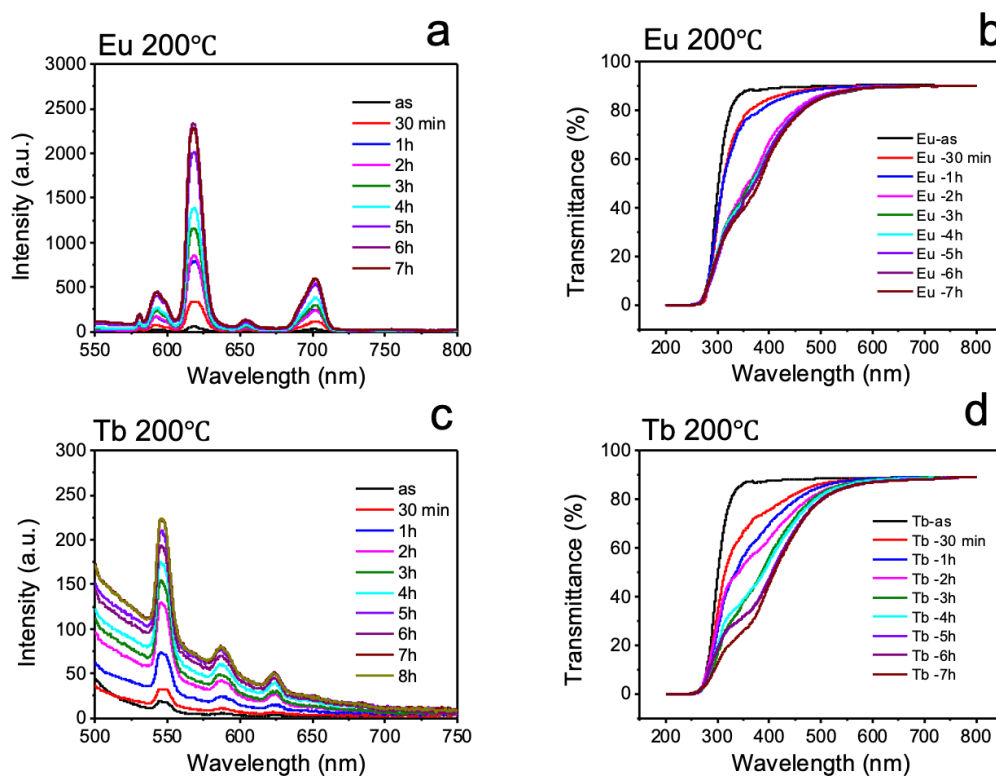


Figure S1. (a) PL luminescence and (b) transmittance of LPSQ64-Eu films cured at 200°C with different time duration (30 min – 7 hours); (c) PL luminescence and (d) transmittance of LPSQ64-Tb films cured at 200°C with different time duration (30 min – 7 hours).

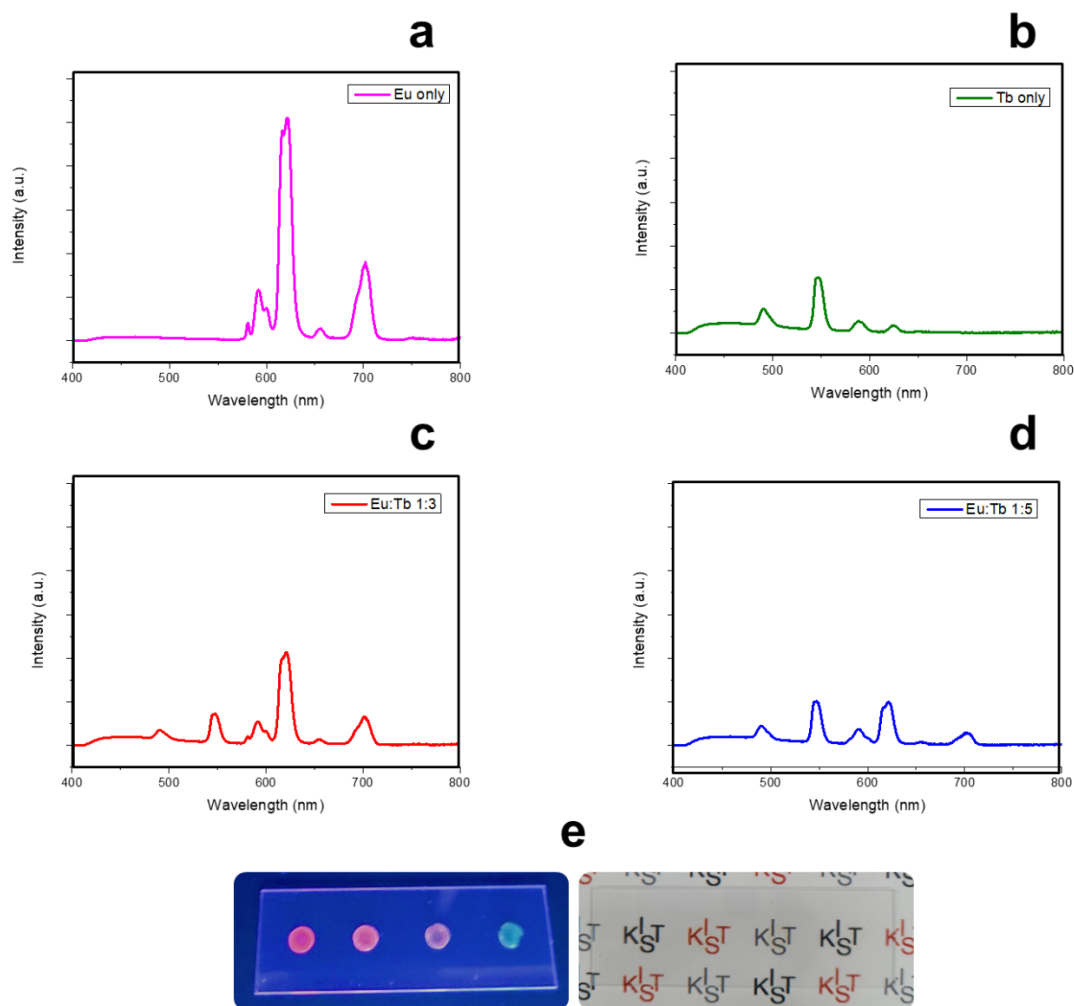


Figure S2. PL spectra of (a) LPGSQ64-Eu, (b) LPGSQ64-Tb, (c) LPGSQ64-Eu:Tb(1:3), and (d) LPGSQ64-Eu:Tb(1:5), cured at 180°C for 6 h, (e) circular thin films on a slide glass prepared by LPGSQ64-Eu, LPGSQ64-Eu:Tb(1:3), and LPGSQ64-Eu:Tb(1:5), and LPGSQ64-Tb, from left right. Photographs were taken under 365 nm UV light irradiation (left) and under natural light (right).

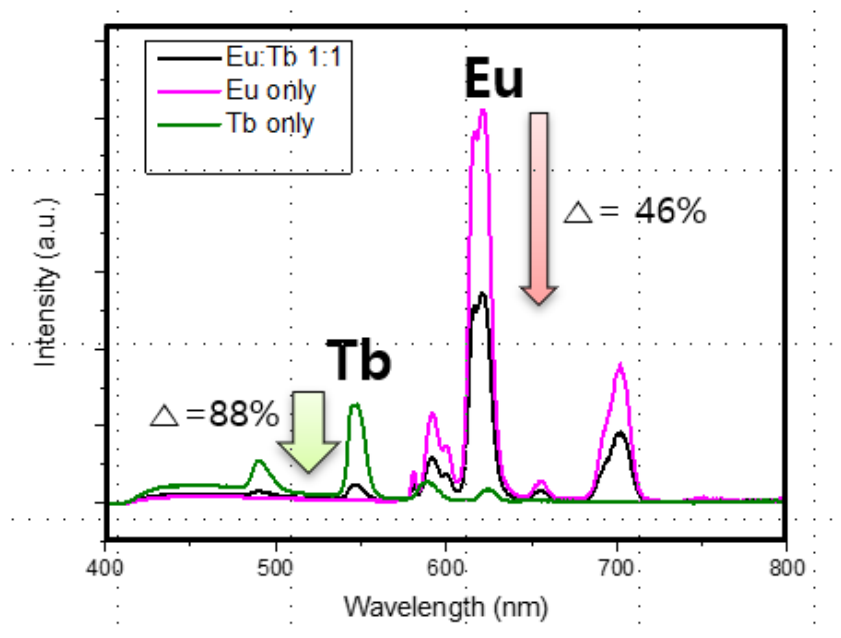


Figure S3. Superposed PL spectra of (a) LPGSQ64-Eu:Tb(1:1), (b) LPGSQ64-Eu, and (c) LPGSQ64-Tb are shown. The green arrow indicates an 88% reduction in the intensity of green luminescence, while the red arrow indicates a 46% reduction in the intensity of red luminescence.

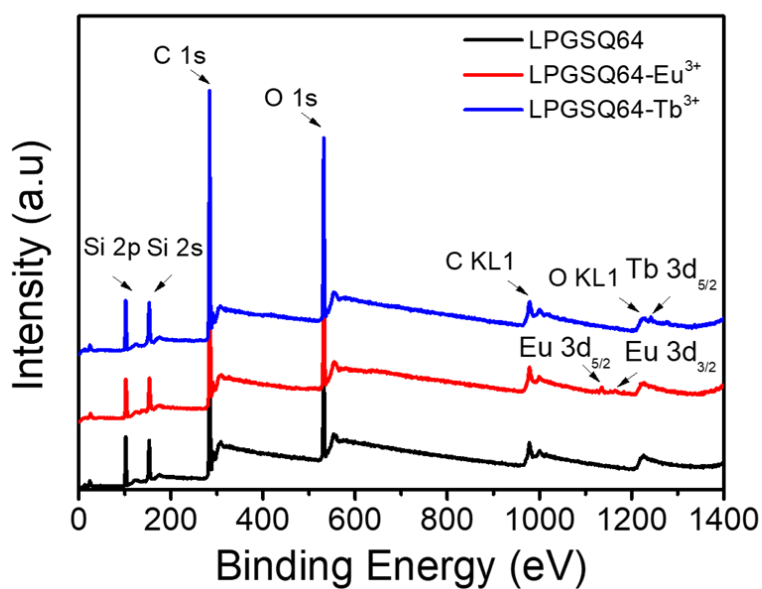


Figure S4. Wide-scan XPS spectra of LPGSQ64, LPGSQ64-Eu, and LPGSQ64-Tb.

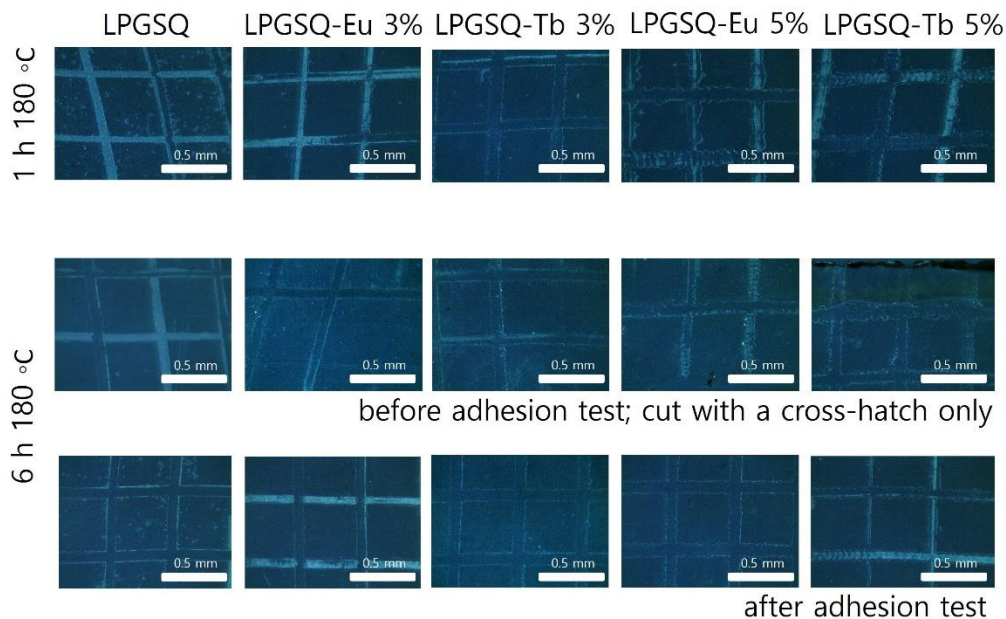


Figure S5. Microscope images of the 1 h and 6 h cured LPSQ64, LPSQ64-Eu films, and LPSQ64-Tb films with 3% and 5% doping after the cross-cut tape test. Additionally, images of the 6 h cured films cut by a cross-hatcher before undergoing the adhesion test are included.

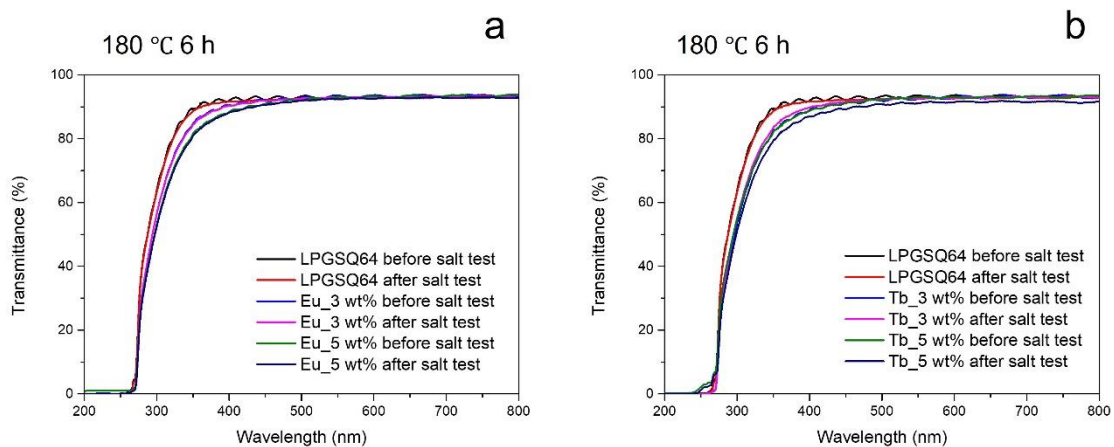


Figure S6. Transmittance of (a) LPSQ64 and LPSQ64-Eu films, and (b) LPSQ64 and LPSQ64-Tb films with 3% and 5% doping before and after the salt test.