

# Novel Sunlight-driven $\text{Cu}_7\text{S}_4/\text{VO}_2$ Composite Films for Smart Windows

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Table S1 Optical properties of randomly arranged VO<sub>2</sub> particle films with different thicknesses

Thickness (nm)	$T_{lum}(25\text{ }^{\circ}\text{C})$	$T_{lum}(70\text{ }^{\circ}\text{C})$	$T_{sol}(25\text{ }^{\circ}\text{C})$	$T_{sol}(70\text{ }^{\circ}\text{C})$	$\Delta T_{sol}$
200	77.1%	71.7%	80.0%	70.2%	9.8%
400	66.3%	56.9%	71.5%	54.1%	17.4%
600	53.9%	43.2%	62.7%	40.9%	21.8%
800	45.7%	34.5%	56.7%	32.5%	24.2%
1000	38.0%	27.2%	50.0%	24.9%	25.1%

Table S2 Optical properties of 600 nm VO<sub>2</sub> films with different VO<sub>2</sub> contents

Different VO <sub>2</sub> contents	$T_{lum}(25\text{ }^{\circ}\text{C})$	$T_{lum}(70\text{ }^{\circ}\text{C})$	$T_{sol}(25\text{ }^{\circ}\text{C})$	$T_{sol}(70\text{ }^{\circ}\text{C})$	$\Delta T_{sol}$
6.75v%	65.5%	58.4%	72.3%	55.2%	17.1%
7.50v%	63.1%	53.5%	70.5%	52.0%	18.5%
8.25v%	60.4%	50.7%	68.5%	49.3%	19.2%
9.00v%	58.0%	48.3%	66.6%	46.7%	19.9%
9.75v%	56.8%	46.9%	65.6%	45.2%	20.4%

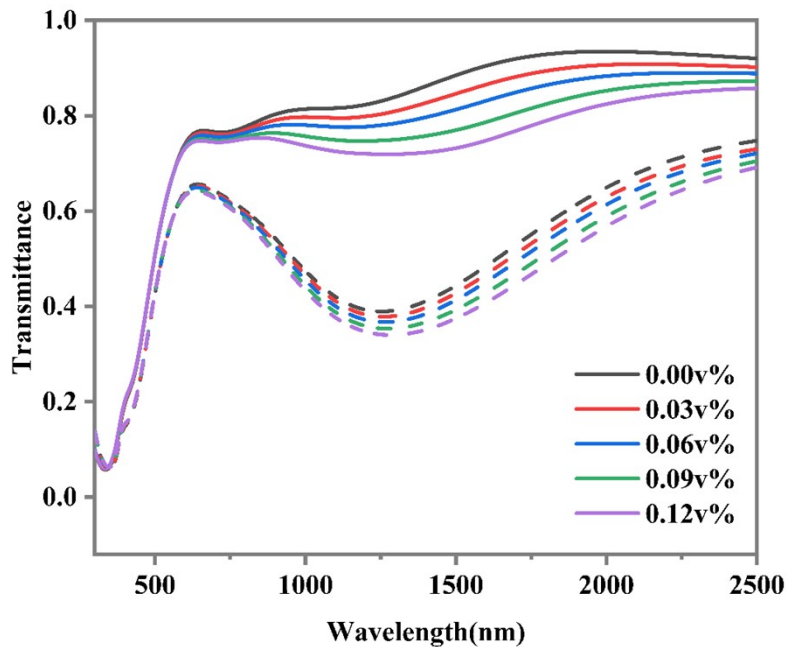


Figure S1 Transmission curves of VO<sub>2</sub> composite films with different Cu<sub>7</sub>S<sub>4</sub> contents (solid line at 25 °C, dashed line at 70 °C)

Table S3 Optical properties of 600 nm composite films with different Cu<sub>7</sub>S<sub>4</sub> contents

Different Cu <sub>7</sub> S <sub>4</sub> contents	$T_{lum}(25\text{ }^{\circ}\text{C})$	$T_{lum}(70\text{ }^{\circ}\text{C})$	$T_{sol}(25\text{ }^{\circ}\text{C})$	$T_{sol}(70\text{ }^{\circ}\text{C})$	$\Delta T_{sol}$
0.00v%	60.4%	50.7%	68.5%	49.3%	19.2%
0.03v%	60.2%	50.6%	67.5%	48.9%	18.6%
0.06v%	60.1%	50.5%	66.7%	48.3%	18.4%
0.09v%	59.8%	50.3%	65.5%	47.6%	17.9%
0.12v%	59.7%	50.2%	64.5%	47.0%	17.5%