

Supporting Information

Nb₂O₅ Nanowire Photoanode Sensitized by Composition-Tuned

CdS_xSe_{1-x} Shell

Jun Ha Kang, Yoon Myung, Jin-Woong Choi, Dong Myung Jang, Chi Woo Lee,

Jeunghee Park, and Eun Hee Cha.*

Table S1: Composition and area fraction of two or three resolved XRD CdS_{1-x}Se_x (110) peaks and average mole fraction.

<i>x</i>	P1			P2			P3			<i>x</i> _{avg} ¹
	2θ	<i>x</i> ₁	<i>f</i> ₁	2θ	<i>x</i> ₂	<i>f</i> ₂	2θ	<i>x</i> ₃	<i>f</i> ₃	
0	41.95	0	1							0
0.1	42.09	0.08	1							0.08
0.3	42.12	0.10	0.66				43.21	0.73	0.34	0.32
0.4	42.07	0.07	0.53	42.59	0.38	0.15	43.54	0.91	0.32	0.38
0.6	42.06	0.07	0.29	42.47	0.31	0.10	43.50	0.89	0.61	0.60
0.8				42.81	0.50	0.25	43.59	0.94	0.75	0.83
0.9							43.58	0.94	1	0.94
1						.	43.70	1.00	1	1

$$^1 x_{avg} = \sum x_i f_i$$

Figure S1: XRD patterns of as-grown Nb₂O₅ NW on the Nb foil substrates and the Nb₂O₅ NW powder forms separated from the substrates. The peaks of the Nb₂O₅ NW match well to those of the monoclinic phase bulk (JCPDS Card No. 37-1468)

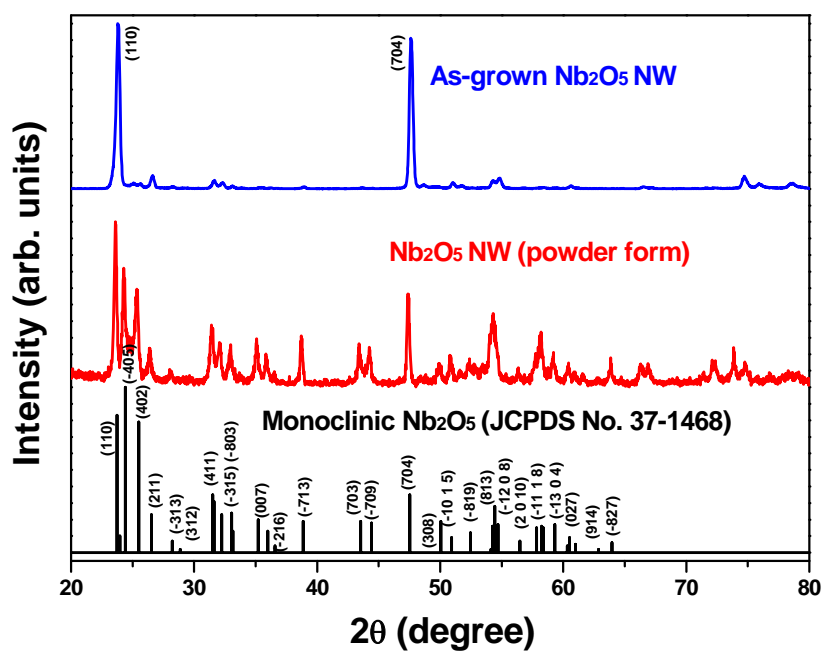


Figure S2. (a) Current density (mA/cm²) versus potential for Nb₂O₅-CdS_{1-x}Se_x photoelectrodes measured in dark conditions. (b) The value of open circuit voltage in dark is plotted as a function of x (S composition).

