Table 1. Material parameters used for the IPCE analysis with references in bracket. n/p-type, is a material doped negatively or positively, E_{gap}, is the bandgap, V_{FB}, is the flatband potential, N, is the doping concentration, ε_r, is the relative permittivity, V_{IPCE}, is the applied potential at which the IPCE was measured, and d, is the thickness of the material. The first value of each parameter is the nominal value and the second or third values are estimated variations.

Material	n/p-type	E_{gap} (eV)	V_{FB} (V_{RHE})	N (cm^{-3})	ε_r (-)	V_{IPCE} (V_{RHE})	d (nm)	Measurements of reflection	Wavelength's range (nm)
Cu$_2$O	p	2.0	1.05 or 0.73	7.1×10^{13}	7.5	0	50 µm	No	500-700
Si	p	1.12	0.20 or 0.13	2.5×10^{17}	11.7	-1	500 µm	Yes	600-1000
Fe$_2$O$_3$	n	2.0	0.34	4.0×10^{18}	32	1.46	25	No	300-700
Fe$_2$O$_3$	n	2.0	0.54	2.6×10^{18}	32	1.46	25	No	300-700
BiVO$_4$	n	2.5	0.08 or 0.1	5×10^{17} 10^{18}-10^{17}	68	1	~200	No	320-575
Cu$_2$V$_8$O$_3$	n	2.0	~0.5	10^{19} 10^{20}-10^{18}	20	1.5	283	No	320-575
CuFeO$_2$	p	1.55	1.01	10^{18}	20	0.4	290	Yes	350-850
nano-Fe$_2$O$_3$	n	2.0	0.54	2.5×10^{18} 10^{19}-10^{18}	32	1.23	~500	No	350-702
nano-Fe$_2$O$_3$-CoB$_i$	n	2.0	0.54	2.5×10^{18} 10^{19}-10^{18}	32	1.23	~500	No	350-702
LaTiO$_2$N	n	2.1	0.1	7.4×10^{17}	15	1.23	1420	Yes	420-710