Table 15.2 Photovoltaic performance of dye-sensitized oxide semiconductor solar cells

Reference	Electrode	Dye	Conditions	Performance
[83]	ZnO	N3	56 mW cm^{-2}	$\eta = 2\%$
[87]	ZnO	Mercurochrome	AM1.5 (99 mW cm^{-2}), 0.09 cm^2	$\eta = 2.5\%$ ($J_{SC} = 7.4$ mA cm^{-2}, $V_{OC} = 0.52$ V, $ff = 0.64$)
[87]	SnO_2	Mercurochrome	AM1.5 (100 mW cm^{-2}), 0.25 cm^2	$\eta = 0.65\%$ ($J_{SC} = 2.0$ mA cm^{-2}, $V_{OC} = 0.58$ V, $ff = 0.56$)
[87]	In_2O_3	Mercurochrome	AM1.5 (100 mW cm^{-2}), 0.25 cm^2	$\eta = 0.38\%$ ($J_{SC} = 5.4$ mA cm^{-2}, $V_{OC} = 0.24$ V, $ff = 0.29$)
[23]	Nb_2O_5	N3	520 nm (4 mW cm^{-2}), 1 cm^2	$\eta = 2.6\%$ ($J_{SC} = 0.29$ mA cm^{-2}, $V_{OC} = 0.61$ V, $ff = 0.58$)
[88]	Nb_2O_5	N3	Xe lamp (100 mW cm^{-2}), UV and IR cut off	$\eta = 1.2\%$ ($J_{SC} = 3.3$ mA cm^{-2}, $V_{OC} = 0.67$ V, $ff = 0.54$)
[90]	$SrTiO_3$	N3	AM1.5 (1 sun)	$\eta = 1.8\%$ ($J_{SC} = 3$ mA cm^{-2}, $V_{OC} = 0.789$ V, $ff = 0.70$)
[92]	SnO_2/ZnO	N3	90 mW cm^{-2}	$\eta = 8\%$ ($J_{SC} = 22.8$ mA cm^{-2}, $V_{OC} = 0.67$ V, $ff = 0.5$)
[94]	Nb_2O_5/TiO_2	N3	Xe lamp	$J_{SC} = 11.4$ mA cm^{-2}, $V_{OC} = 0.732$ V, $ff = 0.564$
[95]	TiO_2/ZnO	N3	Xe lamp (81 mW cm^{-2}), UV and IR cutoff	$\eta = 9.8\%$ ($J_{SC} = 21.3$ mA cm^{-2}, $V_{OC} = 0.71$ V, $ff = 0.52$)
[88]	Nb_2O_5/TiO_2	N3	Xe lamp (100 mW cm^{-2}), UV and IR cutoff	$\eta = 2.0\%$ ($J_{SC} = 7.1$ mA cm^{-2}, $V_{OC} = 0.68$ V, $ff = 0.42$)
[91]	NiO (*p*-type)	erthrosin B	68 mW cm^{-2}	$J_{SC} = 0.2$ mA cm^{-2}, $V_{OC} = 0.08$ V
[98]	Y_2O_3/SnO_2	N3	AM1.5 (100 mW cm^{-2})	$\eta = 4.9\%$ ($J_{SC} = 13.8$ mA cm^{-2}, $V_{OC} = 0.61$ V, and $ff = 0.59$)