

Figure S1. SEM images of (a) BiVO₄, (b) BiVO₄/Au, and (c) BiVO₄/FeCoO_x.

Table S1. Content Information of Each Element in Mapping of BiVO₄/Au/FeCoO_x.

Element	Mass(%)	Atomic(%)
Bi	63.66	20.58
V	19.58	25.96
O	11.96	50.49
Au	3.23	1.11
Fe	1.06	1.28
Co	0.51	0.58

Table S2. Peak position and atomic content in XPS results.

Peak	Location(eV)	Atomic(%)
O _L	530.45	44.11
O _V	531.55	7.99
O _C	532.35	7.91
Au 4f _{7/2}	83.82	1.26
Au 4f _{5/2}	87.51	1.41
Bi 4f _{7/2}	159.11	5.41
Bi 4f _{5/2}	164.41	4.13
Co ³⁺	779.60	0.66
Co ²⁺	780.60	2.37
Co 2p _{1/2}	795.74	2.29
Co sat-1	787.88	0.57
Co sat-2	804.32	0.86
Co sat-3	786.10	0.12
Fe ²⁺	710.31	1.60
Fe ³⁺	712.42	3.03
Fe 2p _{1/2}	723.97	2.05
Fe sat-1	716.17	1.44
Fe sat-2	719.45	1.13
Fe sat-3	732.51	0.15
V 2p _{3/2}	516.70	5.21
V 2p _{1/2}	524.16	1.59
V sat-1	529.69	6.71

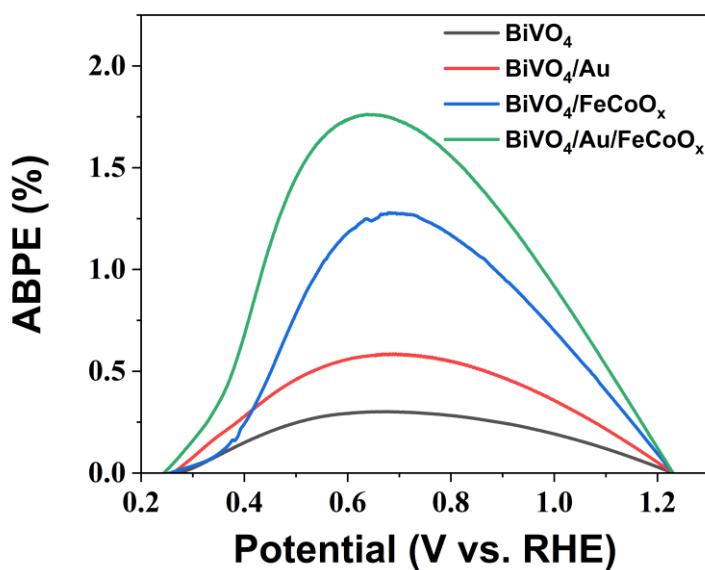


Figure S2. ABPE curves of photoanodes in 0.5 M potassium phosphate buffer (pH = 7.0) under AM 1.5G (100 mW cm^{-2}).

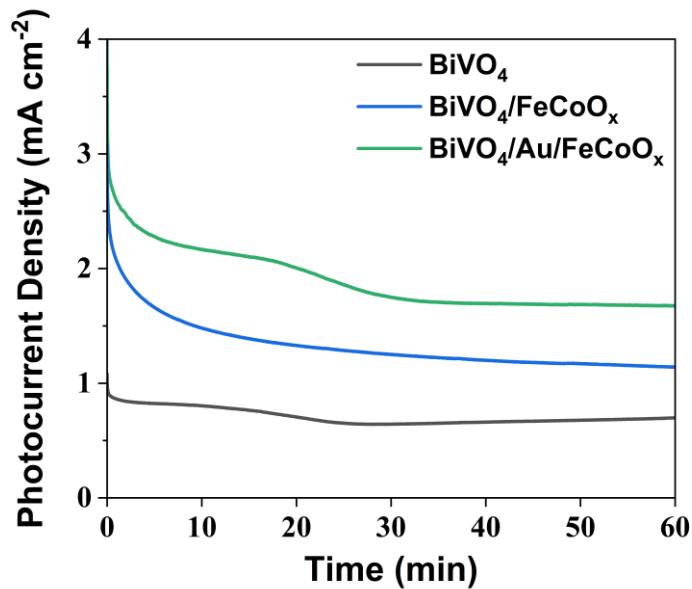


Figure S3. Durability tests of photoanodes in 0.5 M potassium phosphate buffer (pH = 7.0) under AM 1.5G (100 mW cm^{-2}) at 1.23 V vs. RHE.