Electronic Supplementary Material (ESI) for Nanoscale Advances.

Synthesis of nanoporous Mo:$BiVO_4$ thin film photoanodes using ultrasonic spray technique for visible light water splitting

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Figure S1 SEM micrographs of as deposited $BiVO_4$ electrodes (a) $BiVO_4$ (b) Mo:$BiVO_4$

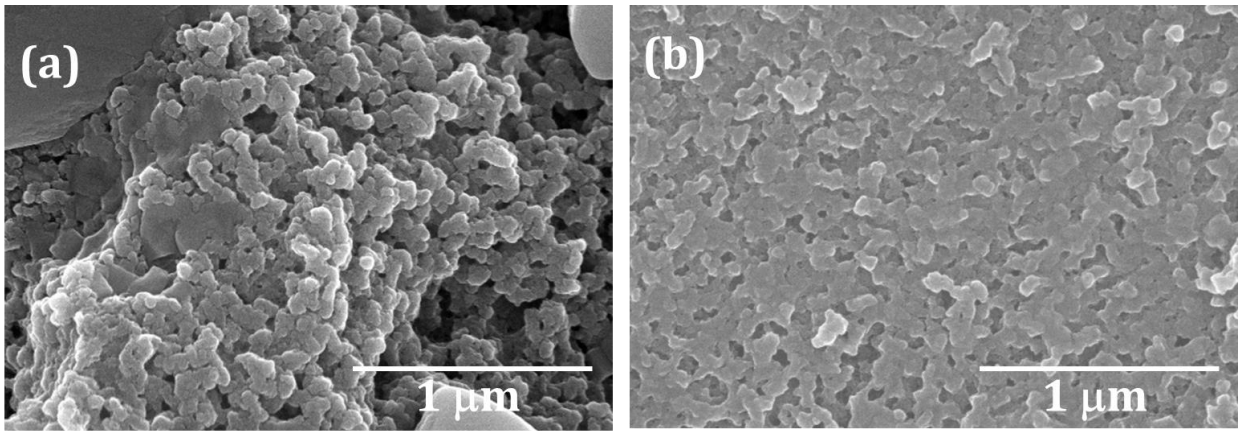

Figure S2 UV-Vis spectra of $BiVO_4$ and Mo:$BiVO_4$ thin film deposited on FTO substrates. Inset shows a Tauc plots for respective samples.

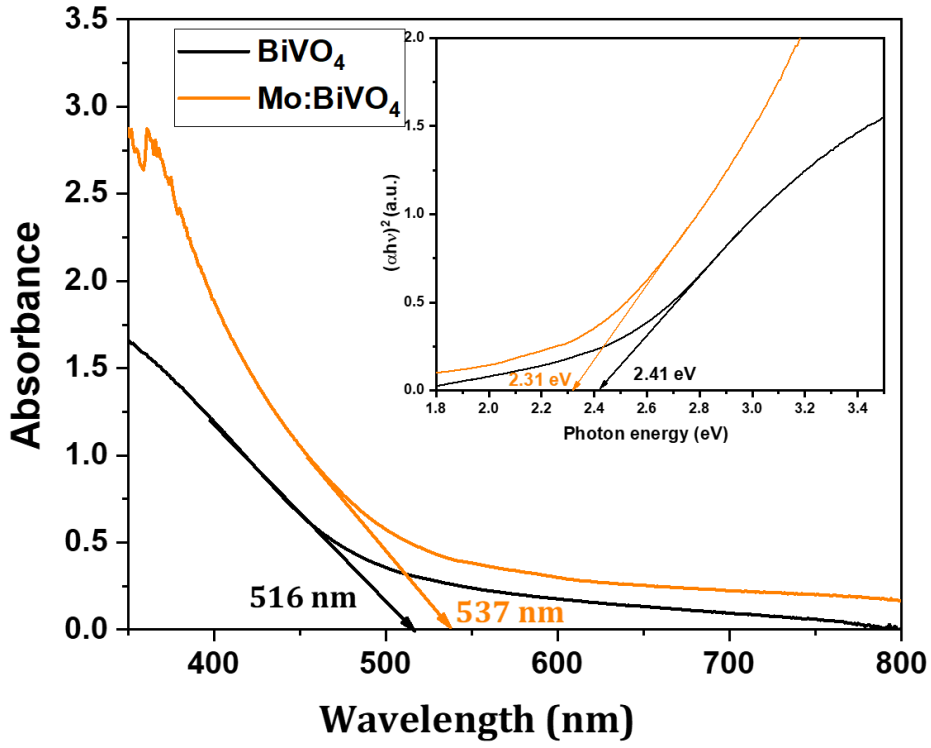

Figure S3 Survey spectrum of Mo:$BiVO_4$ thin film

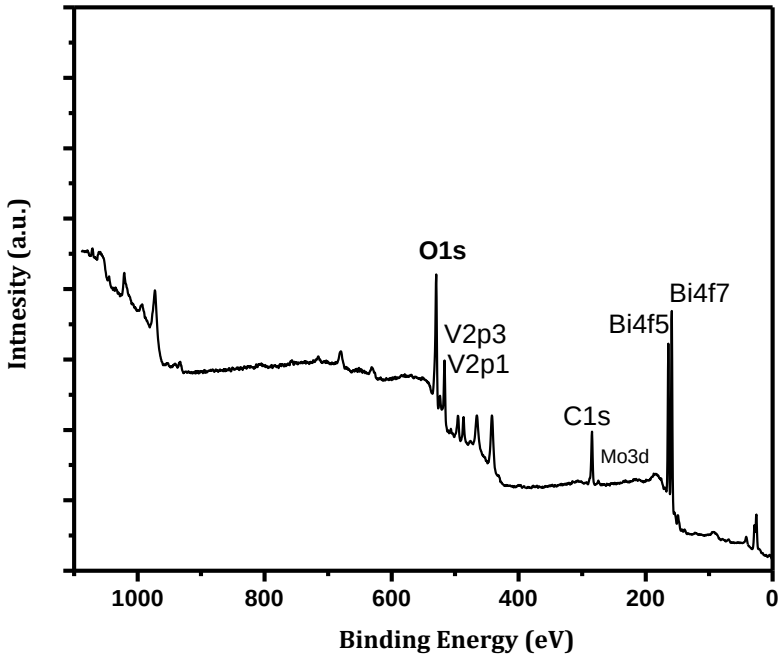

Figure S4 EDS spectra of (a) $BiVO_4$ and (b) Mo:$BiVO_4$ thin films deposited on FTO substrate.

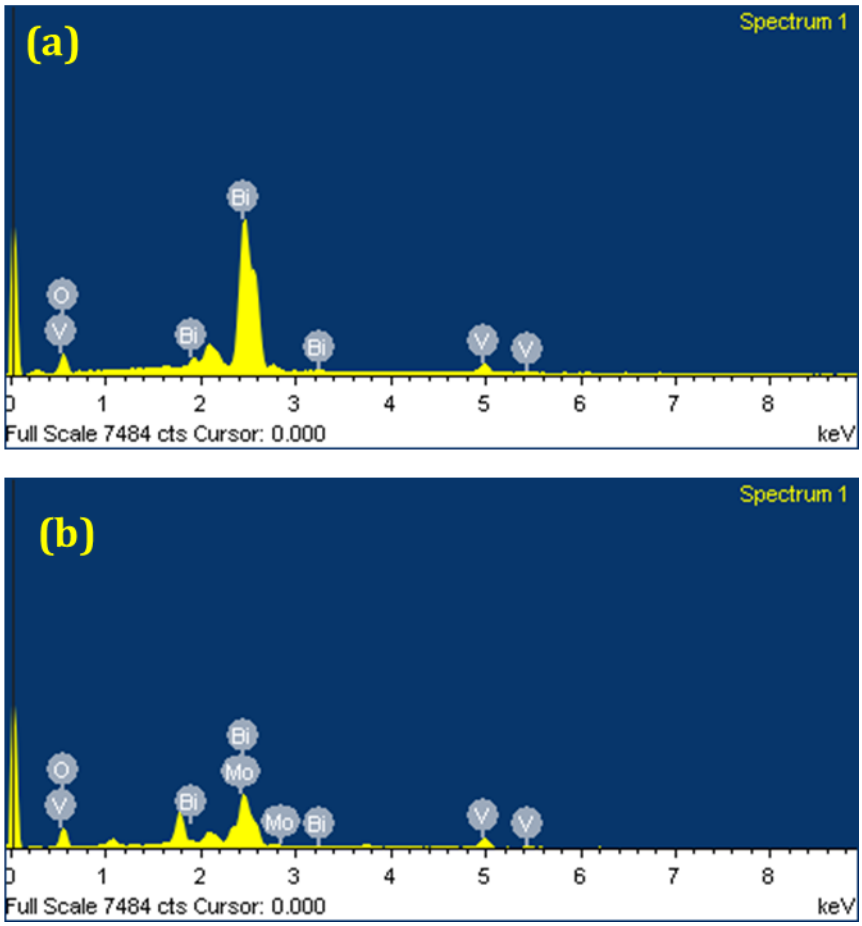

Figure S5 Stability under chopped light for $BiVO_4$ and Mo:$BiVO_4$ electrodes at 1.23 V vs RHE.

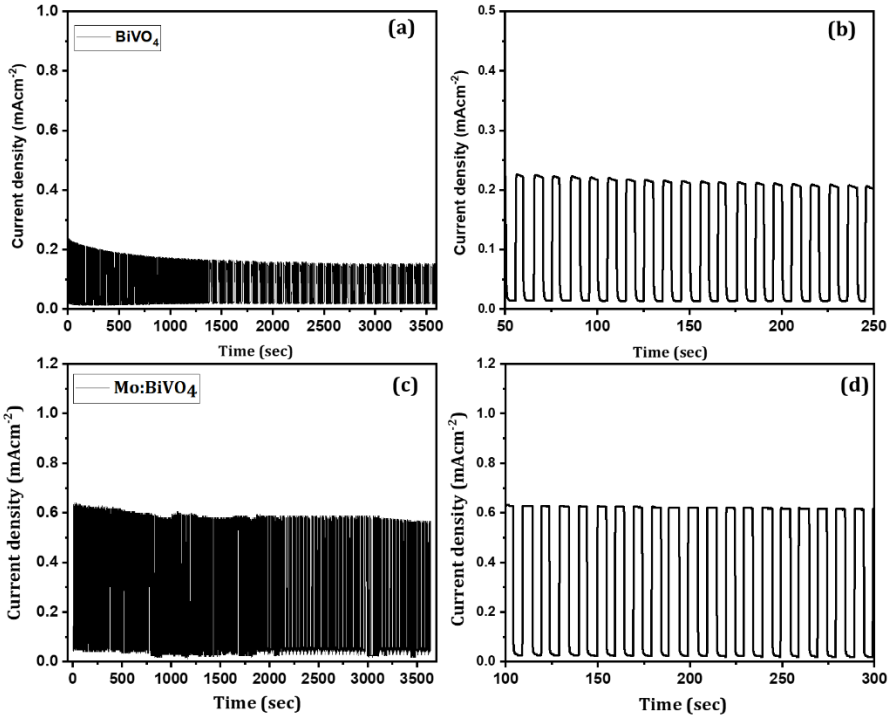

Table S1 Standard and observed d values and their relative intensities of pristine and Mo doped $BiVO_4$ thin films.

Sr. No.	**2θ (standard)**	**2θ (observed) $BiVO_4$**	**2θ (observed) Mo:$BiVO_4$**	**(hkl) plane**	**Standard d (Å) a=5.195 b=11.701 c=5.092**	**Observed d (Å)**	**Observed (Å)**	**standard relative intensity I/I_0 (%)**	**observed relative intensity I/I_0 (%)**	**observed relative intensity I/I_0 (%) Mo:$BiVO_4$**
1.	15.140	15.0528		020	5.8470	5.888578		2	0.86	
2.	18.669	18.6610	18.7766	110	4.7490	4.75509	4.72607	25	39.38	33.78
3.	18.988	18.8258		011	4.6700	4.71383		25	31.68	
4.	28.586			-130	3.1200			30		
5.	28.822	28.8074	28.7483	-121	3.0950	3.09922	3.10288	100	100	100
6.	28.947		28.8689	121	3.0820		3.09787	95	3.09787	76.20
7.	30.548	30.4105	30.4298	040	2.9240	2.9393	2.93514	25	14.86	19.81
8.	34.494	34.4334	34.5095	200	2.5980	2.60464	2.59694	12	9.08	8.35
9.	35.221	35.1031	35.2183	002	2.5460	2.55647	2.54626	14	7.03	9.27
10.	37.866		37.6088	220	2.3740		2.38972	2		0.32
11.	39.455			-141	2.2820			6		
12.	39.545			141	2.2770			6		
13.	39.782	39.8110		211	2.2640	2.26433		12	10.83	
14.	40.040		39.9676	-112	2.2500		2.25395	10		7.08
15.	40.245			112	2.2390			8		

16.	42.339	42.2739		150	2.1330	2.13794		8	5.08	
17.	42.464		42.3941	051	2.1270		2.130039	12		5.48
18.	45.425			-231	1.9950			6		
19.	45.594			231	1.9880			4		
20.	45.886	45.9381	45.8121	-132	1.9760	1.97558	1.97908	6	5.95	5.52
21.	46.034			132	1.9700			8		
22.	46.559			060	1.9490			4		
23.	46.711	46.6980	46.7663	240	1.9430	1.94519	1.94089	16	7.23	8.20
24.	47.305		47.1501	042	1.9200		1.92599	16		8.76
25.	49.960		50.0424	-202	1.8240		1.82124	6		4.43
26.	50.314	50.1243		202	1.8120	1.81996		8	3.78	
27.	53.011			222	1.7260			2		
28.	53.243		53.2105	-161	1.7190		1.72003	18		7.16
29	53.310	53.3343		161	1.7170	1.71775		18	5.62	
30.	53.445			310	1.7130			4		
31.	54.581			013	1.6800			4		
32.	55.732			-251	1.6480			2		
33.	55.879		55.84	251	1.6440		1.64486	4		1.23
34.	56.065			-152	1.6390			2		
35.	56.289			152	1.6330			2		
36.	57.913			170	1.5910			4		
37.	58.073			071	1.5870			6		

38.	58.274			-321	1.5820			10		
39	58.530	58.4388	58.40	321	1.5757	1.57929	1.57883	10	4.09	4
40	59.261	59.2301	59.22	123	1.5580	1.56006	1.5588	8	3.40	3.71