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Ultra-low temperature co-fired ceramics with adjustable microwave dielectric properties in Na_2O-Bi_2O_3-MoO_3 ternary system: A comprehensive study

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Table S1 Values of parameters derived from the fitting of IR spectra of the $0.4(NaBi)_{0.5}MoO_4$-$0.6Na_2MoO_4$ ceramic

Mode	ω_{oj}	ω_{pj}	γ_j	$\Delta\varepsilon_j$
1	68.33	118.00	31.09	2.980
2	89.94	135.21	36.37	2.260
3	130.79	139.18	32.32	1.130
4	165.69	173.66	46.28	1.100
5	219.18	158.29	51.95	0.522
6	251.87	136.12	41.61	0.292
7	298.60	166.36	54.49	0.310
8	378.14	270.58	168.00	0.512
9	384.70	52.52	24.17	0.019
10	537.49	387.63	161.98	0.520
11	631.41	385.56	120.11	0.373
12	708.19	278.20	118.23	0.154
13	820.53	188.65	18.65	0.053
14	855.25	94.46	11.68	0.012
15	900.64	56.29	8.57	0.003
$\varepsilon_\infty = 1.83$			$\varepsilon_0 = 12.1$	

Table S2 Values of parameters derived from the fitting of IR spectra of the $0.8(NaBi)_{0.5}MoO_4$-$0.2Bi_2MoO_6$ ceramic

Mode	ω_{oj}	ω_{pj}	γ_j	$\Delta\varepsilon_j$
1	56.26	62.72	3.02	1.240
2	62.99	115.24	8.22	3.350
3	83.28	335.92	34.38	16.300
4	87.62	43.24	4.74	0.244
5	129.59	114.24	21.12	0.777
6	142.15	85.16	14.06	0.359
7	188.83	184.70	39.68	0.960
8	258.72	229.21	42.21	0.785
9	293.32	275.62	37.17	0.883
10	326.45	104.83	23.73	0.103
11	388.04	266.81	51.21	0.473
12	470.31	171.93	34.19	0.134
13	532.47	210.87	53.63	0.157
14	567.08	151.78	27.38	0.072
15	654.23	201.50	31.92	0.095
16	715.57	758.61	79.00	1.120
17	783.02	239.33	35.89	0.093
18	809.40	265.61	31.67	0.108
19	829.20	221.76	27.37	0.072
20	853.13	104.61	20.01	0.015
21	880.75	172.79	28.32	0.039
22	902.97	76.12	14.53	0.007
$\varepsilon_\infty = 3.21$			$\varepsilon_0 = 27.46$	

Table S3 Values of parameters derived from the fitting of the IR spectra of $0.5(NaBi)_{0.5}MoO_4$-$0.5Bi_2Mo_2O_9$ ceramic

Mode	ω_{oj}	ω_{pj}	γ_j	$\Delta\varepsilon_j$
1	53.07	72.68	1.63	1.880
2	62.30	254.89	12.30	16.700
3	68.40	49.57	1.89	0.525
4	86.60	227.48	25.02	6.900
5	131.15	232.08	72.04	3.130
6	179.43	84.01	38.97	0.219
7	254.37	133.11	27.39	0.274
8	266.73	84.20	16.44	0.100
9	280.06	47.31	10.24	0.028
10	296.74	204.62	32.61	0.467
11	334.36	153.42	26.67	0.211
12	365.78	31.75	8.14	0.007
13	385.06	219.99	52.54	0.326
14	446.86	264.22	51.37	0.350
15	482.62	191.63	38.42	0.158
16	567.58	45.79	12.82	0.006
17	705.22	279.44	31.76	0.157
18	730.39	331.05	42.68	0.205
19	780.54	727.44	129.43	0.869
20	831.59	254.08	34.05	0.093
21	894.62	90.88	15.72	0.010
$\varepsilon_\infty = 2.17$			$\varepsilon_0 = 32.64$	