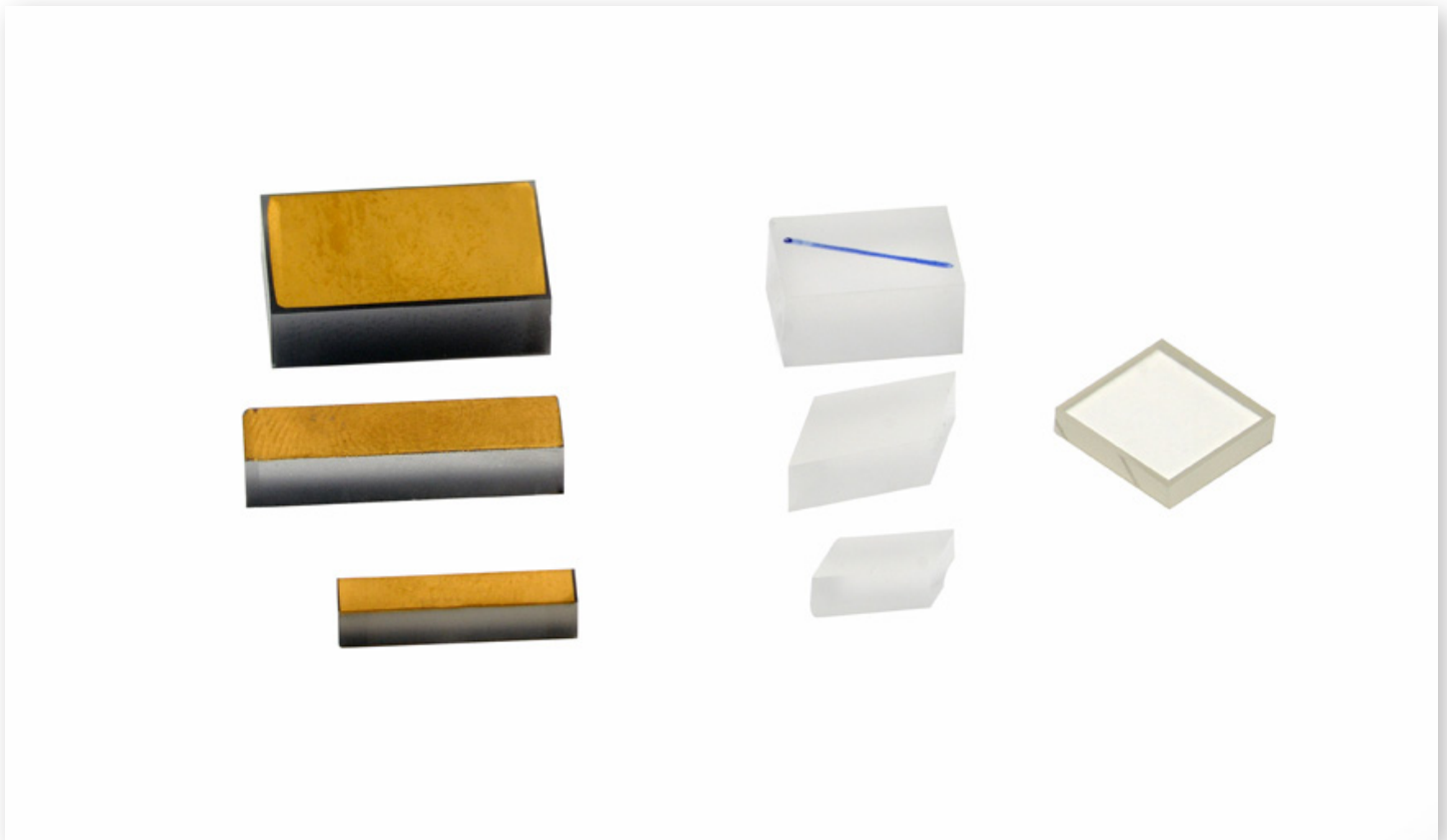


Chemical Formula:	<b>b-BaB<sub>2</sub>O<sub>4</sub></b>
Crystal Symmetry:	<b>trigonal</b>
Optical Symmetry:	<b>uniaxial negative</b>
Class:	<b>3m</b>

## BBO Single Crystals



Inrad fabricates and finishes all BBO crystals in house. As a result Inrad can fabricate and polish almost any size crystal and any orientation of BBO. In order to simplify manufacturing, stocking, and ordering, a number of standard sizes and orientations have been defined. If the size and orientation that you want is not listed here, please send a Request For Quotation to us! Different orientations, crystallographically speaking, refer to the angles between the beam propagation direction and

the crystallographic direction of the optic axis. All of the orientations that are listed here are Type I, meaning that the polarization directions of the two longest wavelengths in the mixing process are in the same direction; the shortest wavelength in the mixing process has an orthogonal polarization direction.

Examples of tuning applications are given for each crystal cut; other applications are possible.

## BBO Single Crystals

Size (mm)	Corresponding INRAD Cells	Notes
5 x 5 x 0.1	530-041, 535-040	Cannot be coated
5 x 5 x 0.25	530-041, 535-040	
5 x 5 x 0.5	530-041, 535-040	5-14B & 5-050 size
5 x 5 x 1.0	530-041, 535-040	5-14B size
5 x 5 x 2.0	530-041, 565-110, 535-040	5-035C & 5-050 size
5 x 5 x 5	530-041, 534-040, 535-040, 561-044	
5 x 5 x 10	534-040, 561-044	
5 x 7 x 6	561-044	Autotracker size
5 x 7 x 8	561-044	Autotracker size
8 x 8 x 5	530-081, 534-070, 561-044	
8 x 8 x 10	534-070, 561-044	Autotracker size
8 x 10 x 6.5	561-044	Autotracker size
8 x 10 x 8	561-044	Autotracker size
8 x 10 x 12	-	OPO size
10 x 12 x 6.5	561-044	Autotracker size
10 x 12 x 8	561-044	Autotracker size

## BBO Standard Orientations

Designation	Angle $\theta$	Operation	Input	Output
"0"	68.5°	SHG	418-464 nm	209-232 nm
		THG	(600-665 nm) + (300-331 nm)	200-220 nm
"1"	53.2°	SHG	454-560 nm	209-232 nm
		THG	(651-800 nm) + (325-400 nm)	217-266 nm
"2"	37.4°	SHG	542-820 nm	271-410 nm
		THG	(774-1165 nm) + (387-582 nm)	258-388 nm
"A"	78°	SHG	410-433 nm	205-216 nm
		THG	(594-620 nm) + (297-310 nm)	198-206 nm
"B"	55°	SHG	448-543 nm	224-271 nm
		THG	(642-775 nm) + (321-358 nm)	214-258 nm
"C"	65°	SHG	423-480 nm	211-240 nm
		THG	(608-687 nm) + (304-343 nm)	203-229 nm
"TSS"	28.7°	SHG	636-1000 nm	318-500 nm
		THG	(906-2100 nm) + (453-1050 nm)	302-700 nm
"TST"	44°	SHG	496-675 nm	248-337 nm
		THG	(710-960 nm) + (355-480 nm)	237-320 nm
"OPO1"	36.6°	SHG	549-844 nm	275-422 nm
		THG	(784-1200 nm) + (392-600 nm)	262-400 nm
		SFM	1064 nm + (510-567 nm)	345-370 nm
"OPO2"	57.5°	SHG	440-525 nm	220-262 nm
		THG	(632-750 nm) + (316-375 nm)	211-250 nm
"M1"	50.2°	SFM	1064 nm + (243-340 nm)	198-257 nm
"DGN"	31°	SFM	1064 nm + (380-980 nm)	280-510 nm
"IDLR"	20°	SHG	1380-1460 nm	690-730 nm
"OPO3"	30°	OPO	355 nm	410-2000 nm
"SHG"	22.8°	SHG	1064 nm	532 nm
"THG"	31.3°	THG	1064 nm + 532 nm	355 nm
"4HG"	47.6°	4HG	532 nm	266 nm
—	22°	SHG	1550 nm	775 nm

*BBO crystals are normally supplied with a single-layer MgF2 protective coating*