

**Datasheet for #sbcw1240 UP**

Recommendations:

Please read the starter kit user manual, if available, and have a look at the FAQ at <http://www.alpeslasers.ch/alfaqa.pdf>

**WARNING:** Operating the laser with higher current or voltage than specified in this document may cause damage and will result in loss of warranty, unless Alpes Lasers has permitted to do so!

**WARNING:** Beware of the polarity of the laser. This laser has to be powered with negative current on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive current on the base contact (= submount, corresponding to the label "base" on the LLH). To use with a power-supply ILX Lightwave LDX-3232 or equivalent.

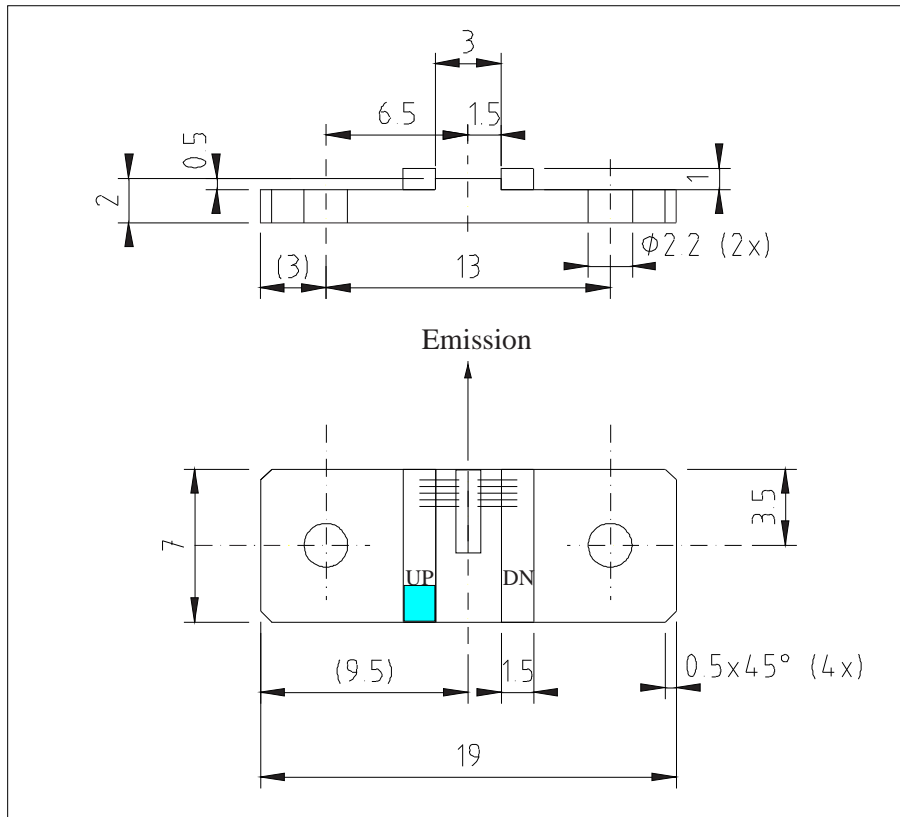


Figure 1: Support mounting for #sbcw1240 UP (please note that the laser is connected to the UP pad drawn in blue)

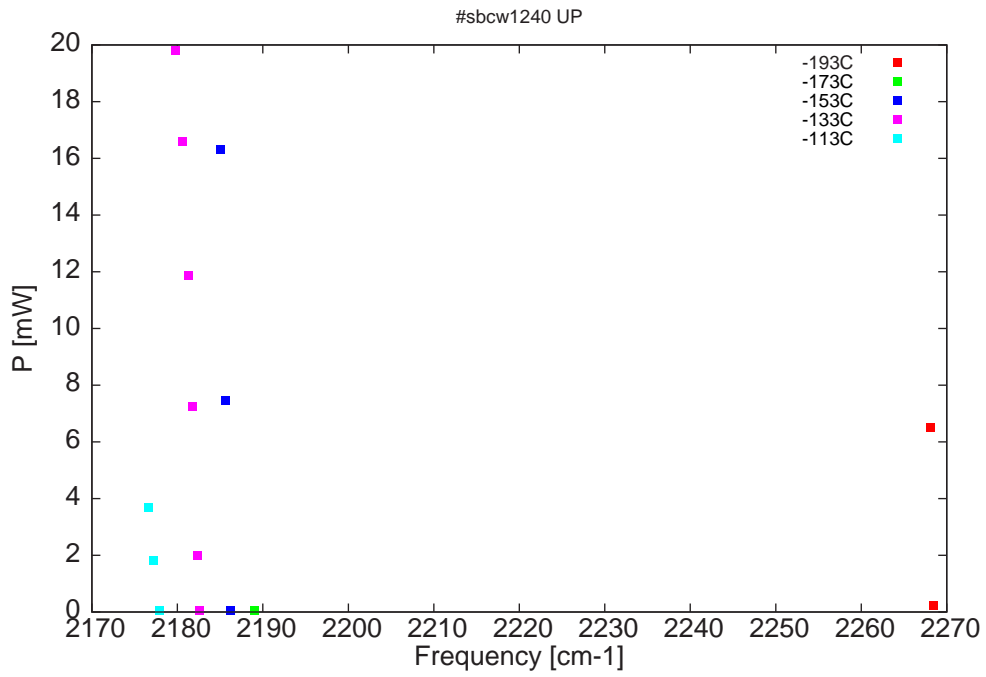


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

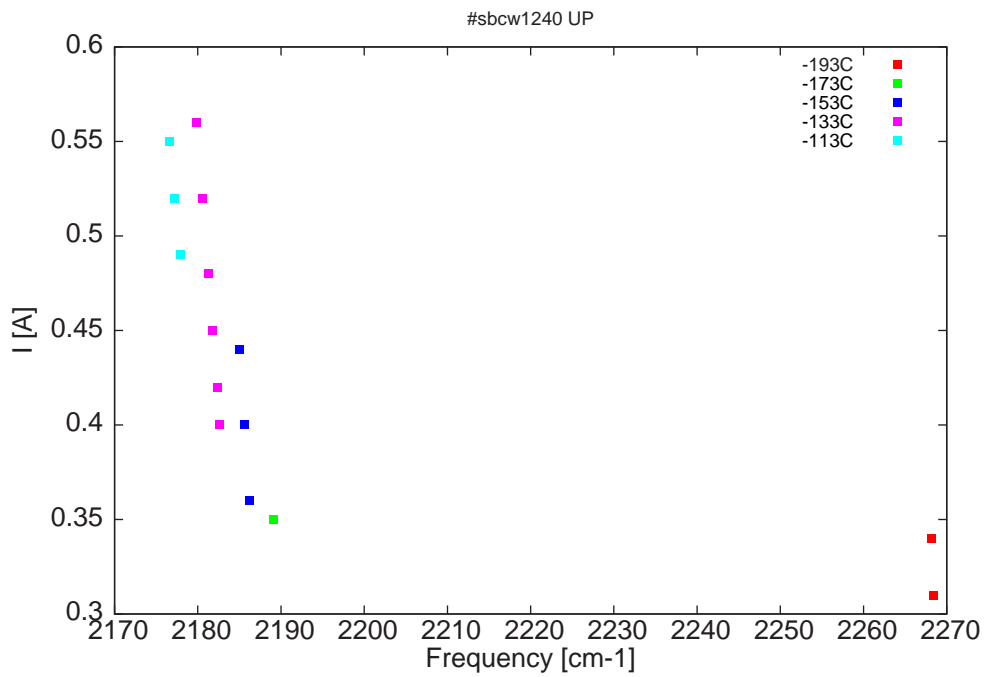


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
4408.4	2268.4	0.2	-193	9.5	0.31
4408.9	2268.2	6.5	-193	9.6	0.34
4568.1	2189.1	0.1	-173	9.4	0.35
4574	2186.3	0.1	-153	9.2	0.36
4575.4	2185.6	7.5	-153	9.3	0.4
4576.6	2185	16.3	-153	9.4	0.44
4581.6	2182.6	0.1	-133	9.1	0.4
4582.3	2182.3	2	-133	9.2	0.42
4583.4	2181.8	7.3	-133	9.2	0.45
4584.5	2181.3	11.9	-133	9.3	0.48
4586	2180.6	16.6	-133	9.4	0.52
4587.6	2179.8	19.8	-133	9.5	0.56
4591.5	2177.9	0.1	-113	9.1	0.49
4593	2177.2	1.8	-113	9.2	0.52
4594.4	2176.6	3.7	-113	9.3	0.55

Table 1 : singlemode optical output power as function of operating parameters

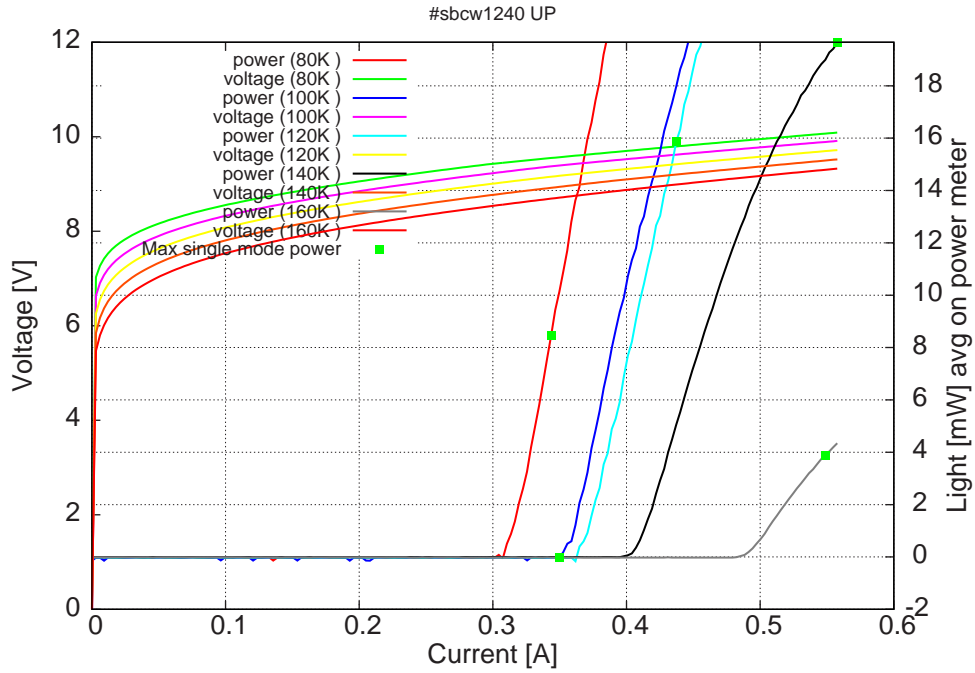


Figure 4: peak voltage and average power vs peak current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

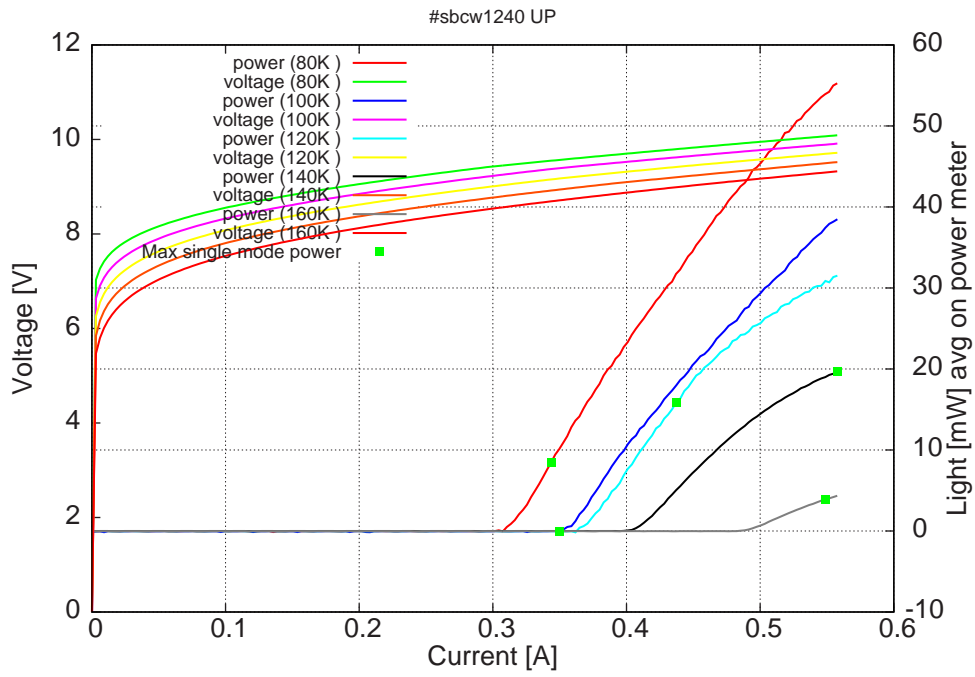
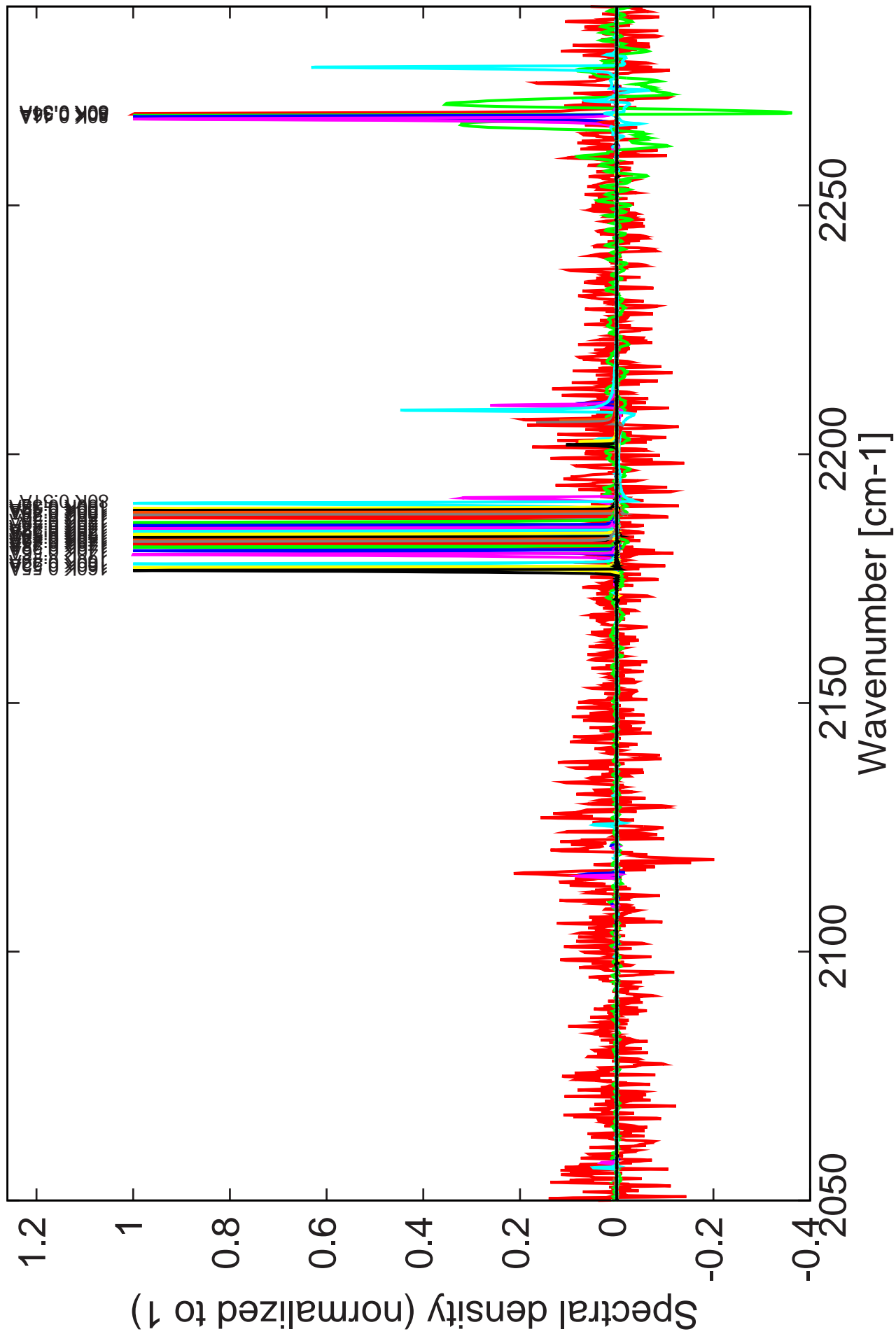


Figure 5: peak voltage and average power vs peak current in continuous-wave operation (including the multimode region)

Note: at 80K:  $I_{th}=310\text{mA}$  /  $V_{th}= 9.4\text{V}$  (2-wires measurements). Maximum operation current: 0.56A for all temperatures. Collection efficiency lower than 70%.

Figure 4: spectra at different temperatures for various DC currents



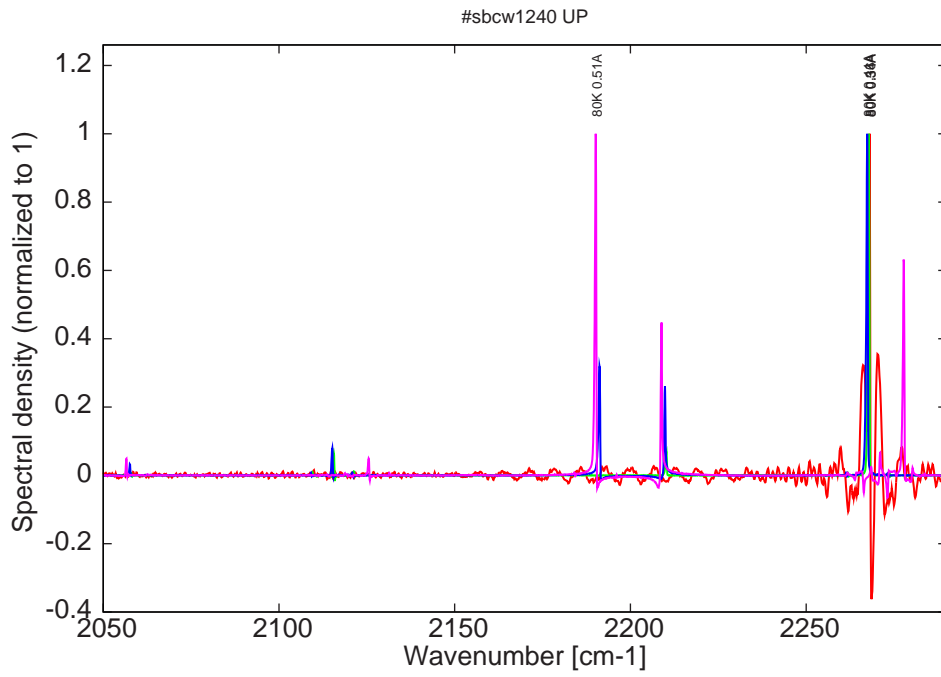


Figure 6: spectra at 80K (monomode up to 0.34A but around 2268cm-1)

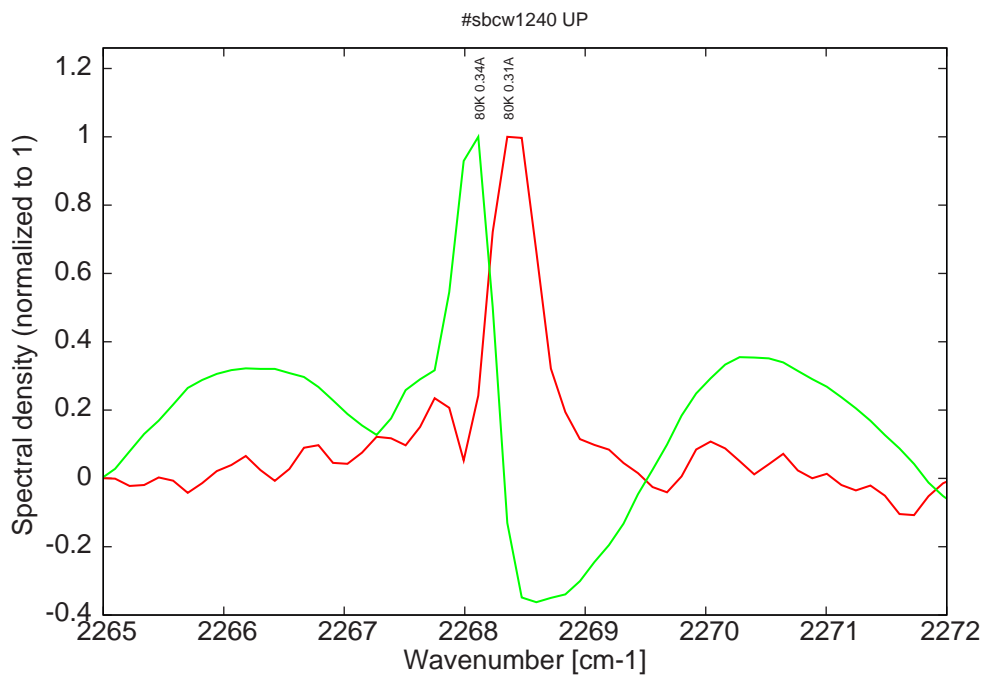


Figure 7: spectra at 80K (monomode range)

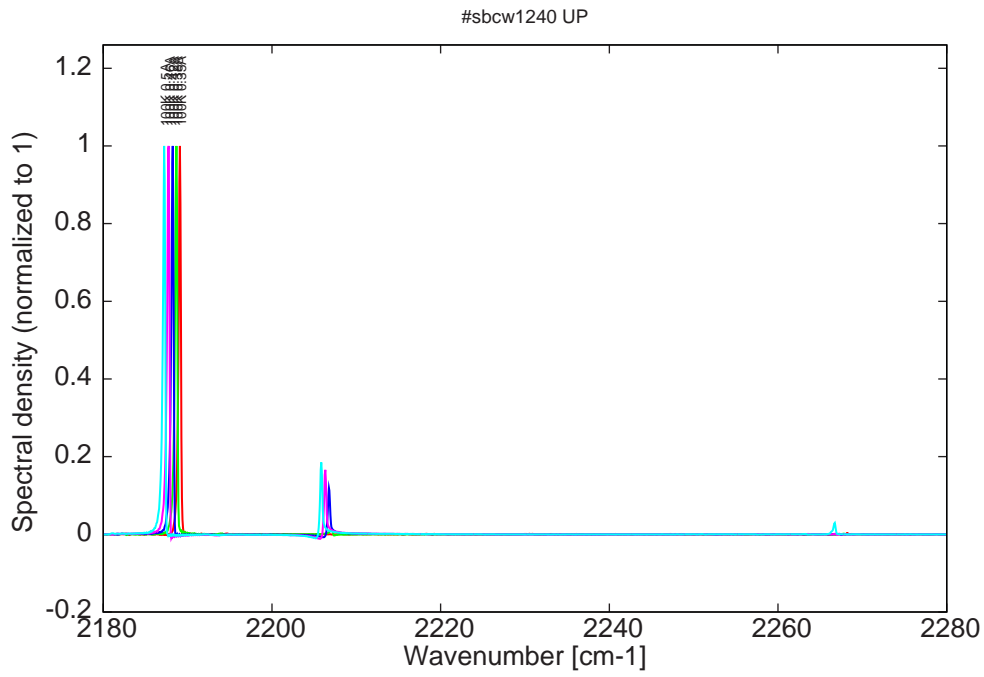


Figure 8: spectra at 100K (monomode up to 0.35Å)

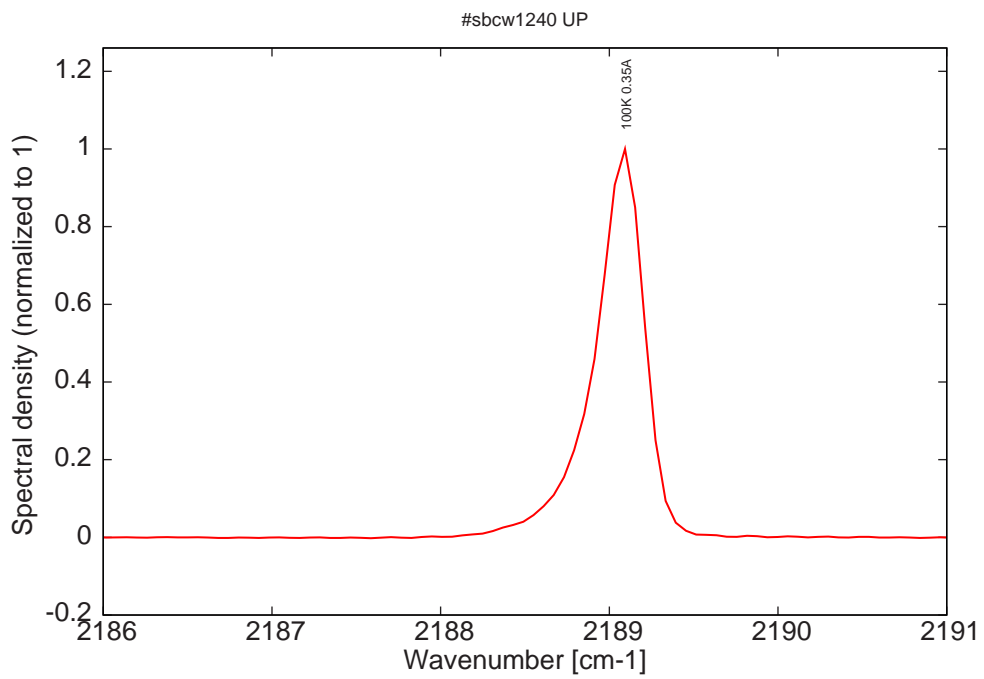


Figure 9: spectra at 100K (monomode range)

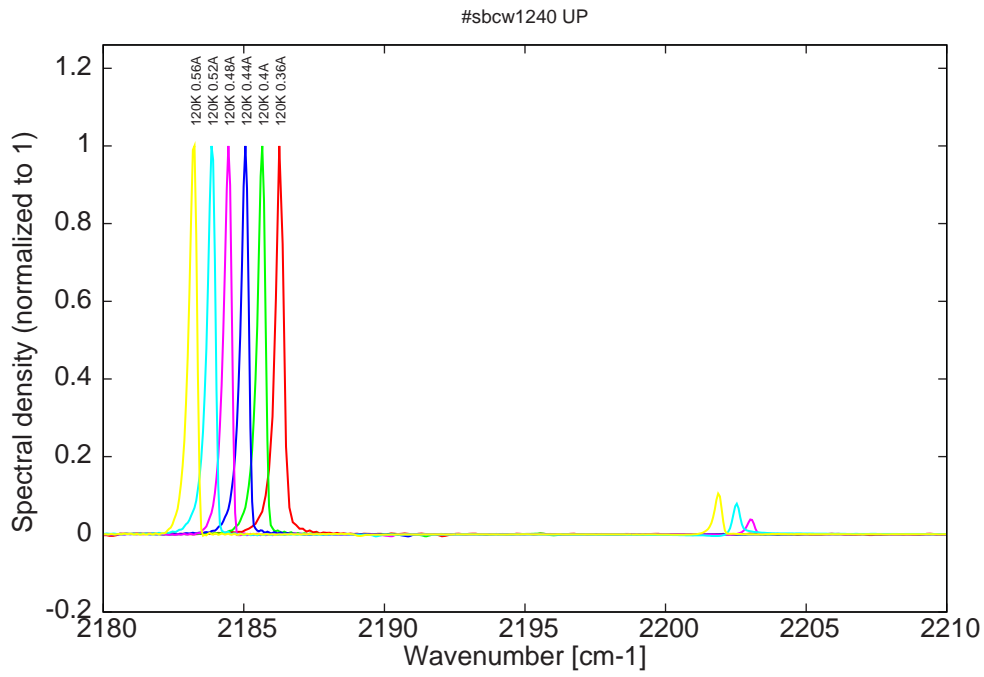


Figure 10: spectra at 120K (monomode up to 0.44A)

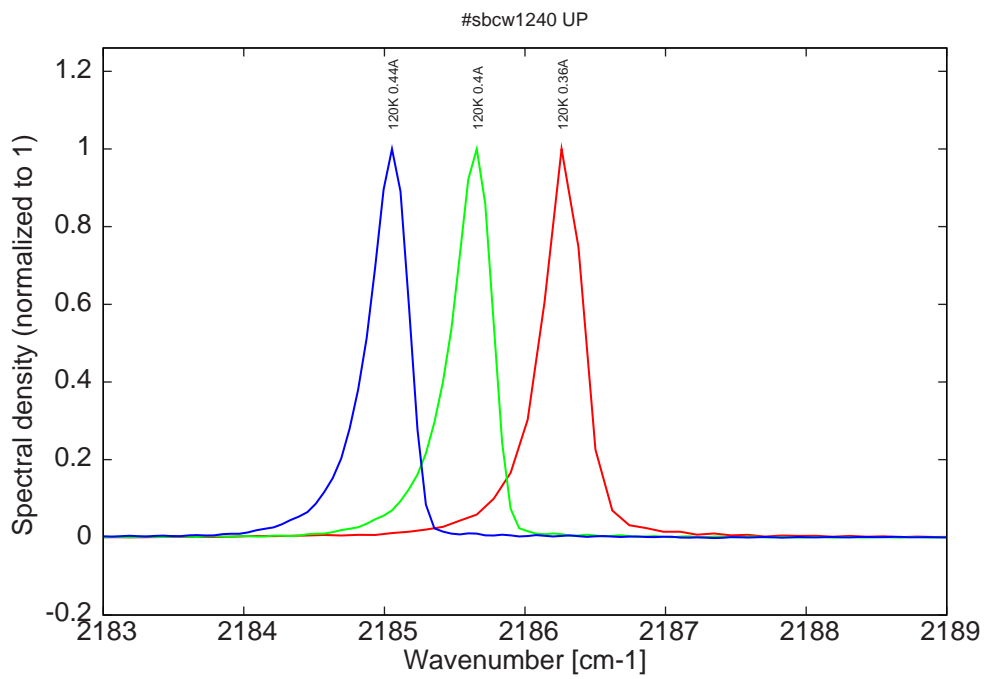


Figure 11: spectra at 120K (monomode range)



Figure 11: spectra between 140K and 160K (all monomode)

