

Datasheet for #sbcw1812 DN

Recommendations:

Please read the starter kit user manual (at least installation chapter 5), if available, and have a look at the FAQ at <http://www.alpeslasers.ch/alfaq.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 #sbcw1812 DN (please note that the laser is connected to the DN pad drawn in blue)

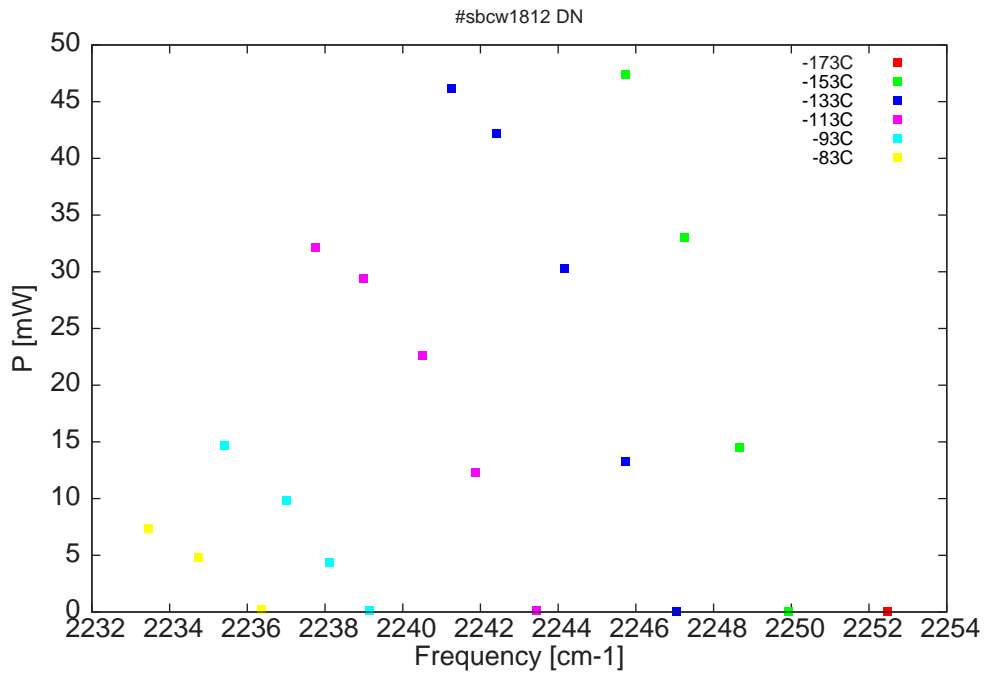


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

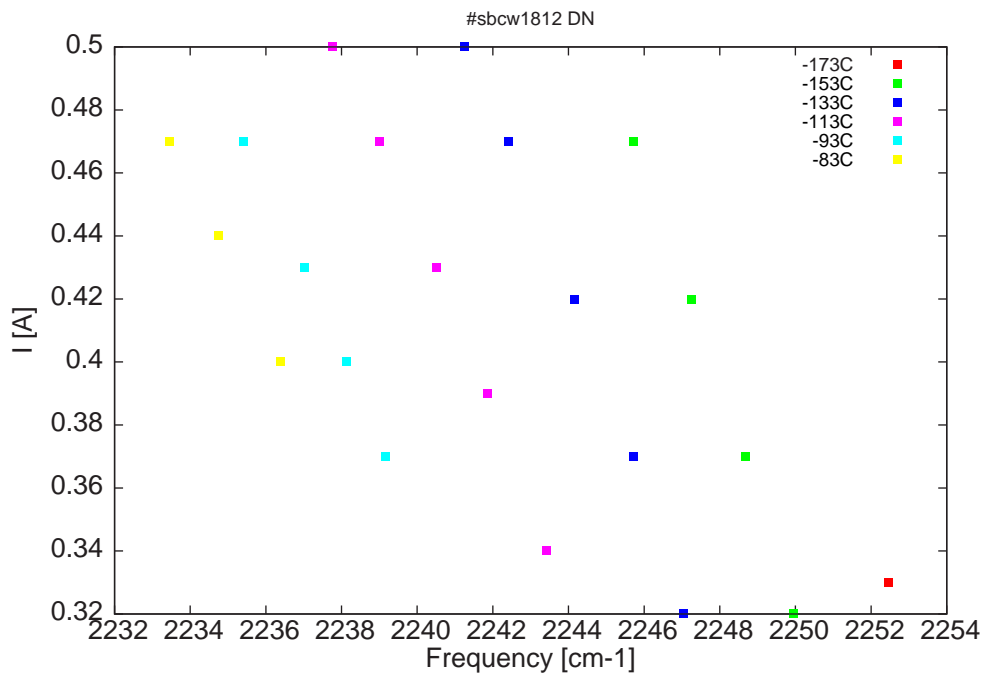


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

λ [nm]	ν [cm ⁻¹]	P[mW]	Temp[°C]	U_{LASER} [V]	I[A]
4439.6	2252.5	0.1	-173	12.1	0.33
4444.6	2249.9	0.1	-153	11.7	0.32
4447.1	2248.7	14.5	-153	11.9	0.37
4449.9	2247.3	33.1	-153	12.2	0.42
4452.9	2245.7	47.4	-153	12.4	0.47
4450.3	2247	0.1	-133	11.4	0.32
4452.9	2245.7	13.2	-133	11.7	0.37
4456	2244.2	30.3	-133	11.9	0.42
4459.5	2242.4	42.2	-133	12.2	0.47
4461.8	2241.3	46.2	-133	12.4	0.5
4457.5	2243.4	0.1	-113	11.3	0.34
4460.6	2241.9	12.3	-113	11.5	0.39
4463.3	2240.5	22.6	-113	11.8	0.43
4466.3	2239	29.4	-113	12	0.47
4468.7	2237.8	32.2	-113	12.2	0.5
4466	2239.2	0.1	-93	11.2	0.37
4468	2238.1	4.3	-93	11.4	0.4
4470.2	2237	9.8	-93	11.6	0.43
4473.4	2235.4	14.7	-93	11.8	0.47
4471.5	2236.4	0.3	-83	11.3	0.4
4474.8	2234.8	4.8	-83	11.6	0.44
4477.4	2233.5	7.4	-83	11.8	0.47

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

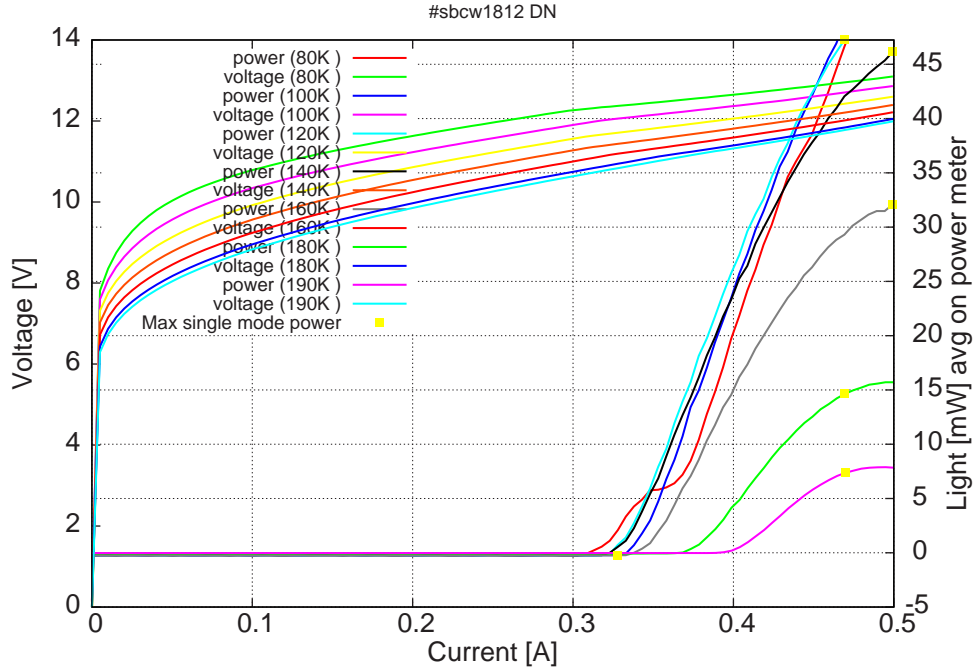


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

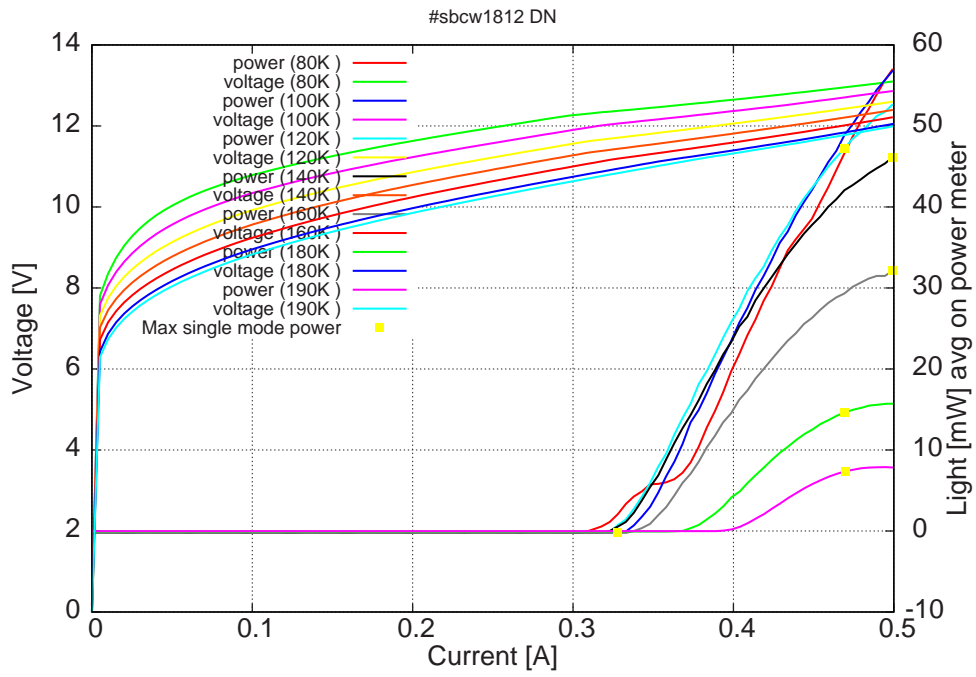
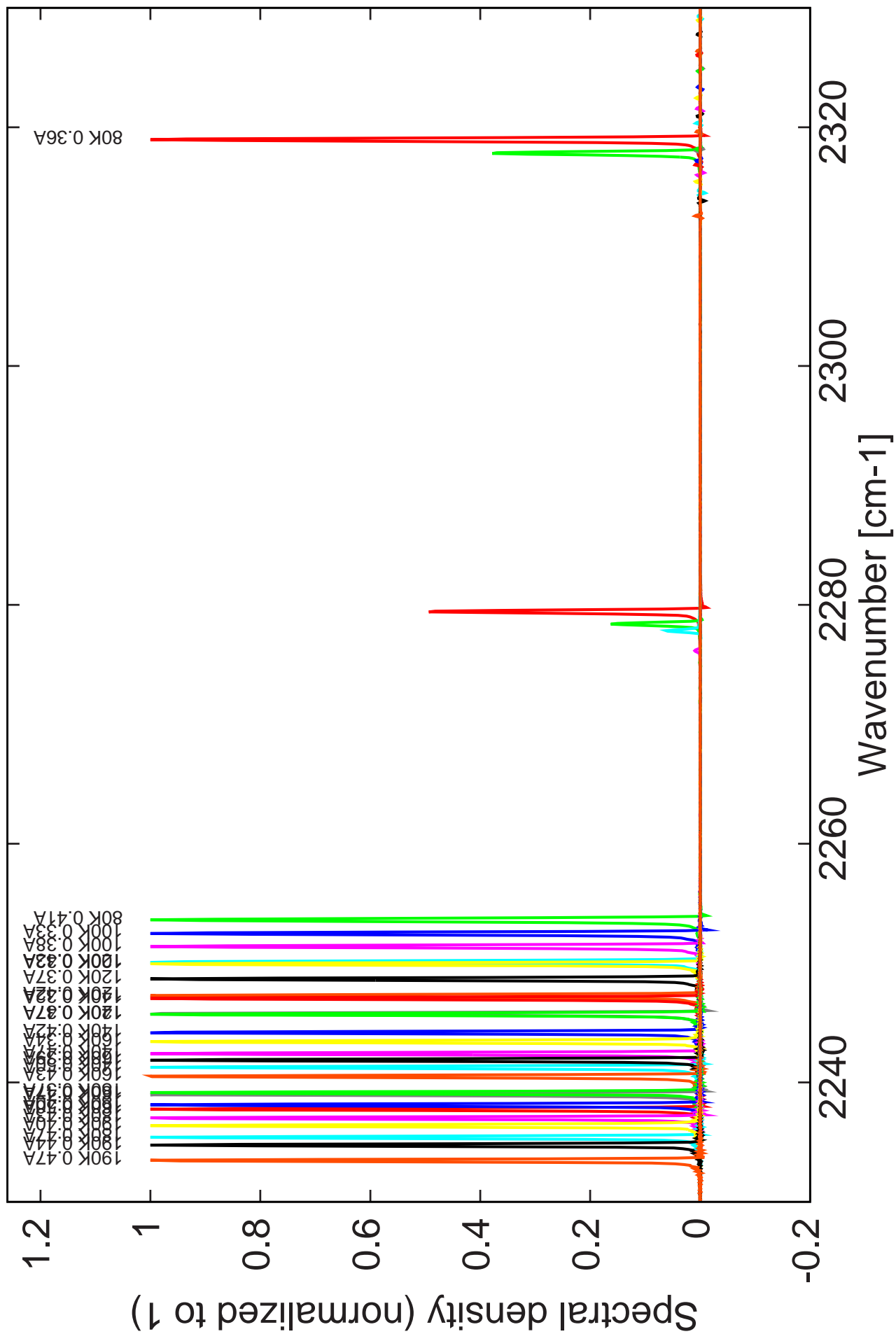


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at 80K: $I_{th}=310\text{mA}$ / $V_{th}= 12.3\text{V}$ (2-wires measurements). Maximum operation current: 0.5A for all temperatures.

Figure 4: spectra at different temperatures for various DC currents



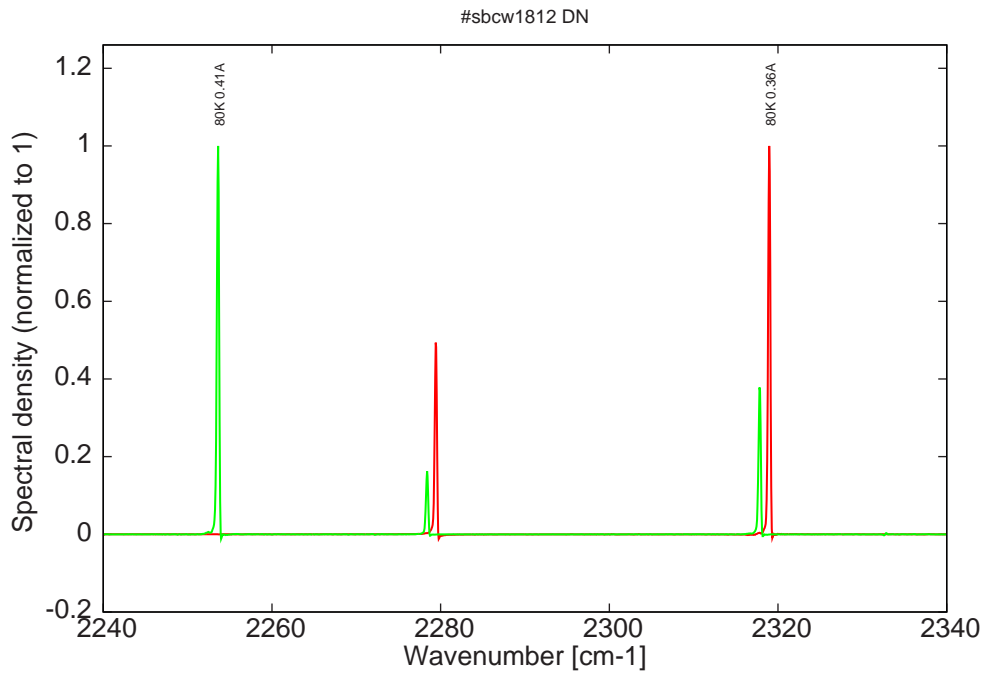


Figure 6: spectra at 80K for various DC currents (not monomode)

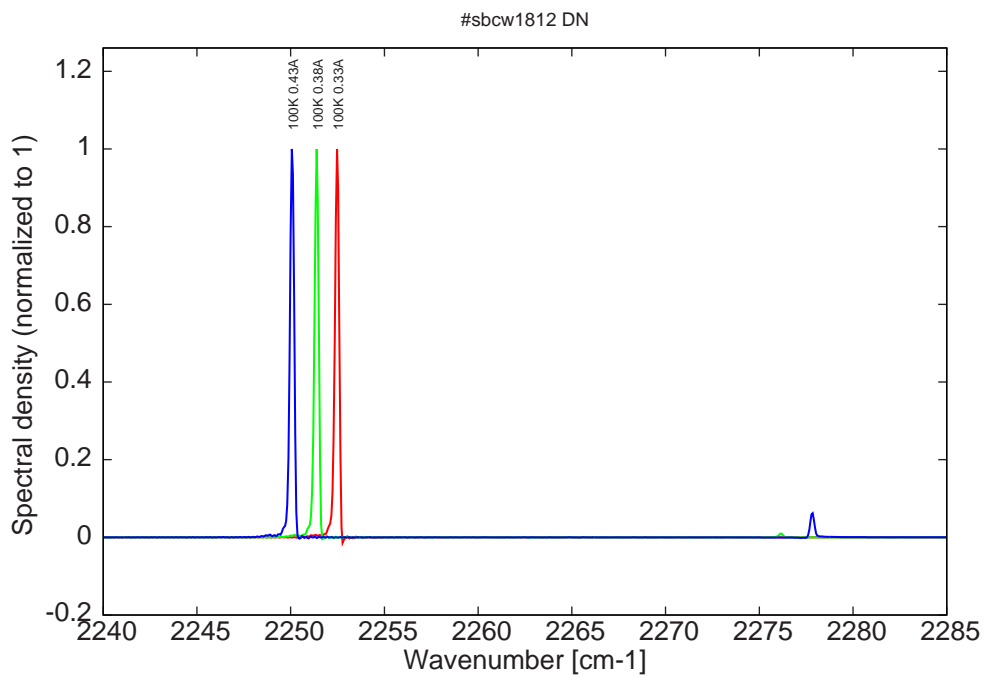


Figure 7: spectra at 100K for various DC currents (monomode only at threshold)

Figure 7: spectra between 120K and 140K for various DC currents (all monomode)

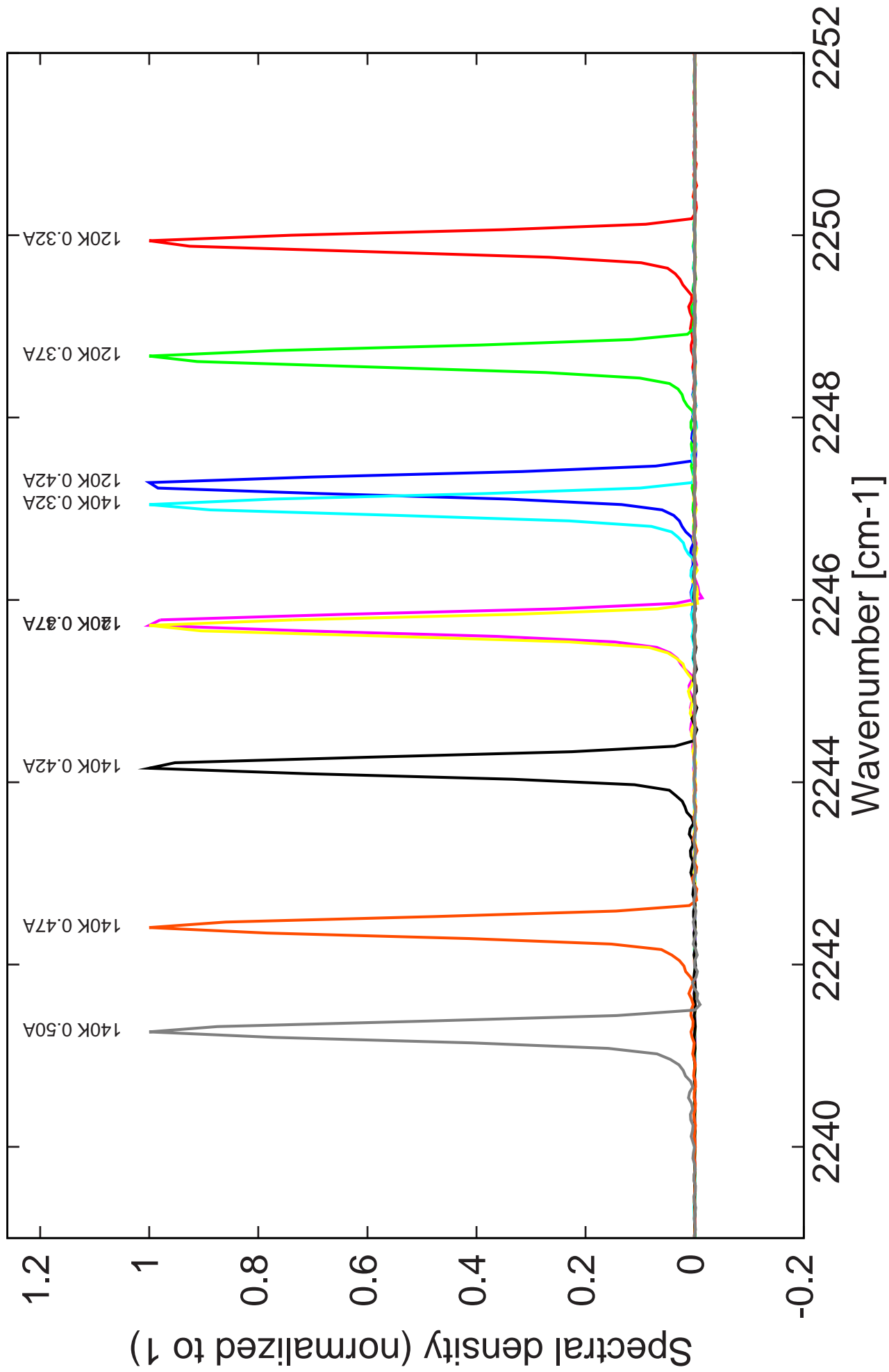


Figure 8: spectra between 160K and 190K for various DC currents (all monomode)

