

Datasheet for sb4

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 longer pulses, shorter period, or higher voltage or current than specified in this document may cause damage and will result in loss of warranty, unless agreed upon with Alpes Lasers!

WARNING: Beware of the polarity of the laser. This laser has to be powered with negative bias on the laser contact (= bonding pad, corresponding to the label "laser" on the LLH) and the positive bias on the base contact (= submount, corresponding to the label "base" on the LLH).

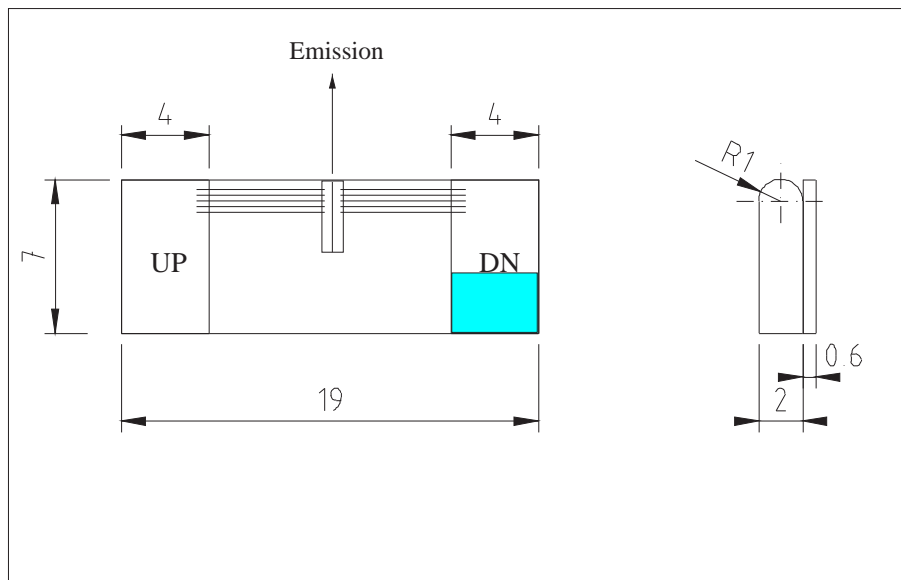


Figure 1: Support mounting for sb4 (please note that the laser is connected to the DN pad drawn in blue)

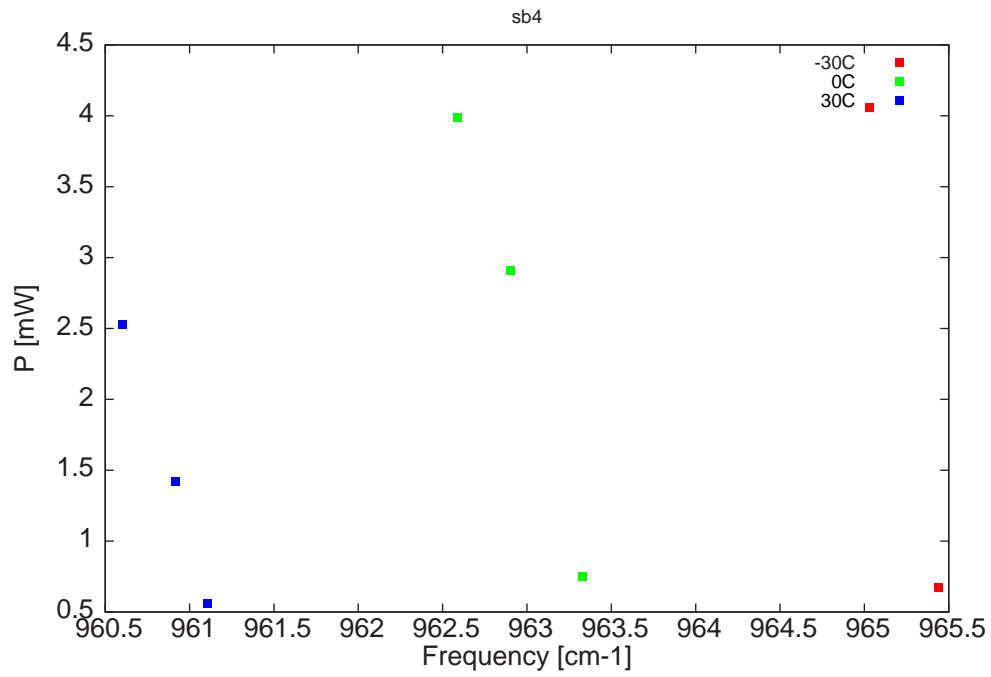


Figure 2: Output power as a function of the singlemode emission frequencies and temperatures

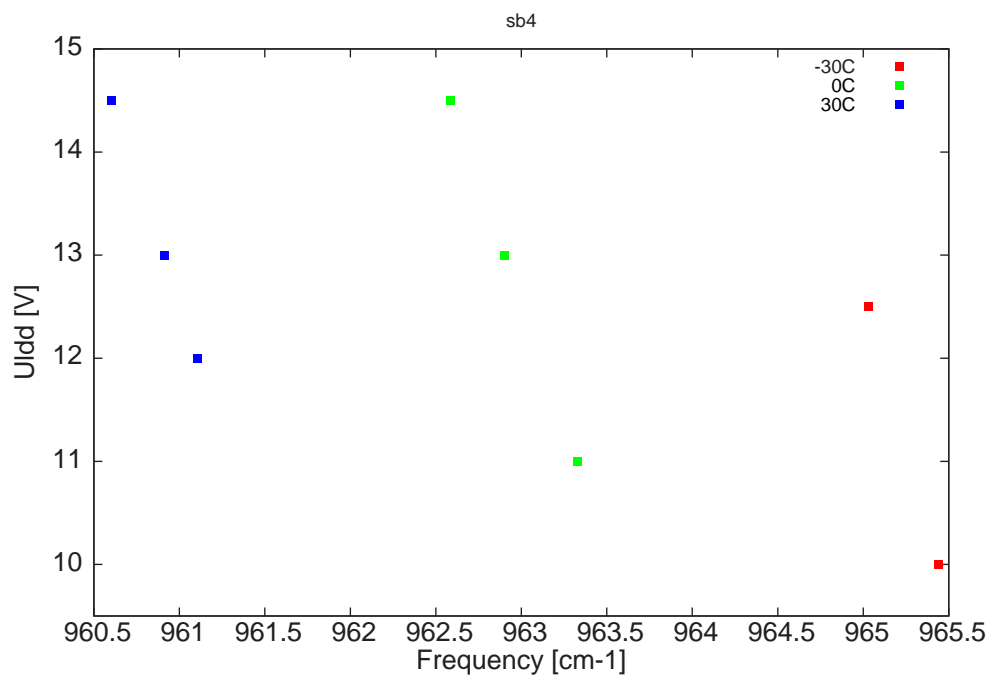


Figure 3: DC voltage fed to LDD (U_{ddd}) as a function of the singlemode emission frequencies and temperatures

λ [nm]	ν [cm^{-1}]	P[mW]	Temp[$^{\circ}\text{C}$]	U_{LDD} [V]	I_{pulse} [A]
10358	965.4	0.7	-30	10	2.31
10362.4	965	4.1	-30	12.5	3.2
10380.7	963.3	0.8	0	11	2.68
10385.2	962.9	2.9	0	13	3.38
10388.7	962.6	4	0	14.5	3.89
10404.7	961.1	0.6	30	12	3.04
10406.8	960.9	1.4	30	13	3.38
10410.1	960.6	2.5	30	14.5	3.88

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

Note: data taken with 50ns pulses, $2.5\mu\text{s}$ period.

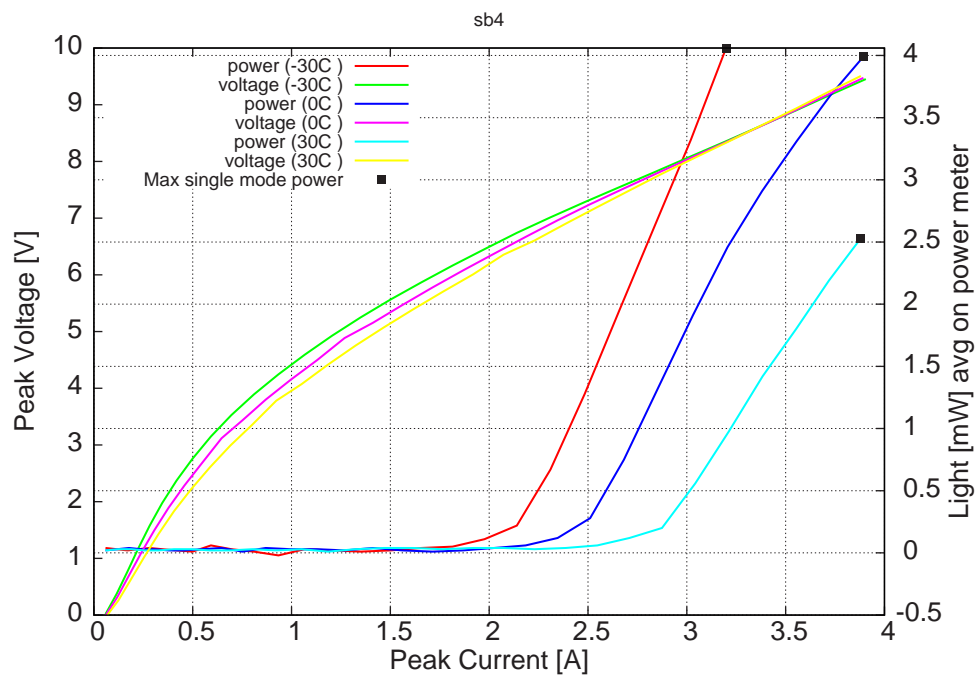


Figure 4: peak voltage and avg power vs peak current (the solid squares indicate the maximum singlemode emitted power)

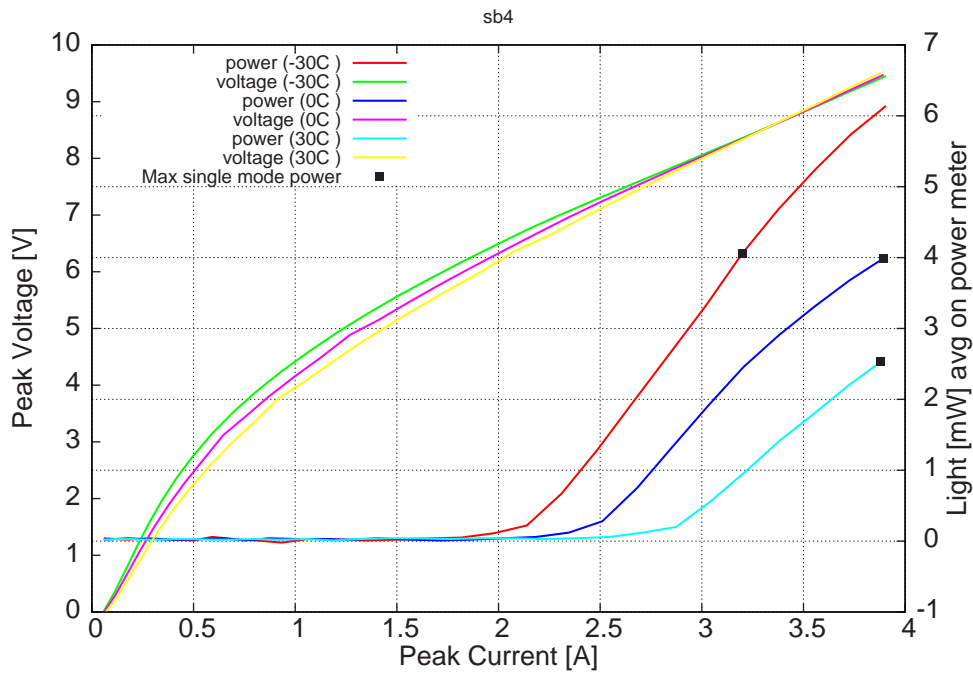


Figure 5: peak voltage and avg power vs peak current (including the multimode region)

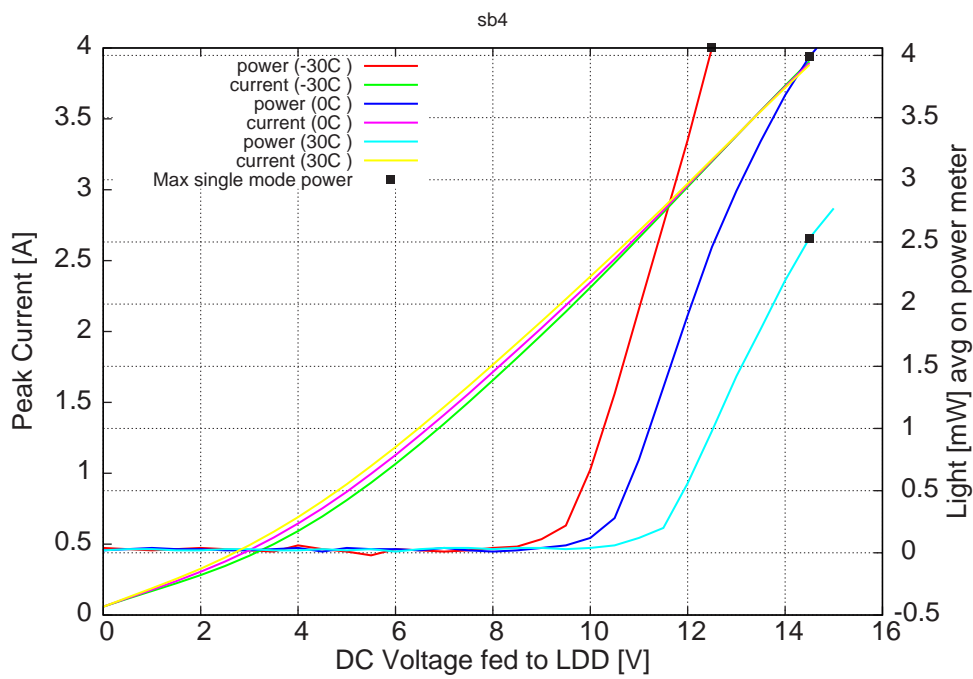


Figure 6: peak current and avg power vs LDD voltage (the solid squares indicate the maximum singlemode emitted power)

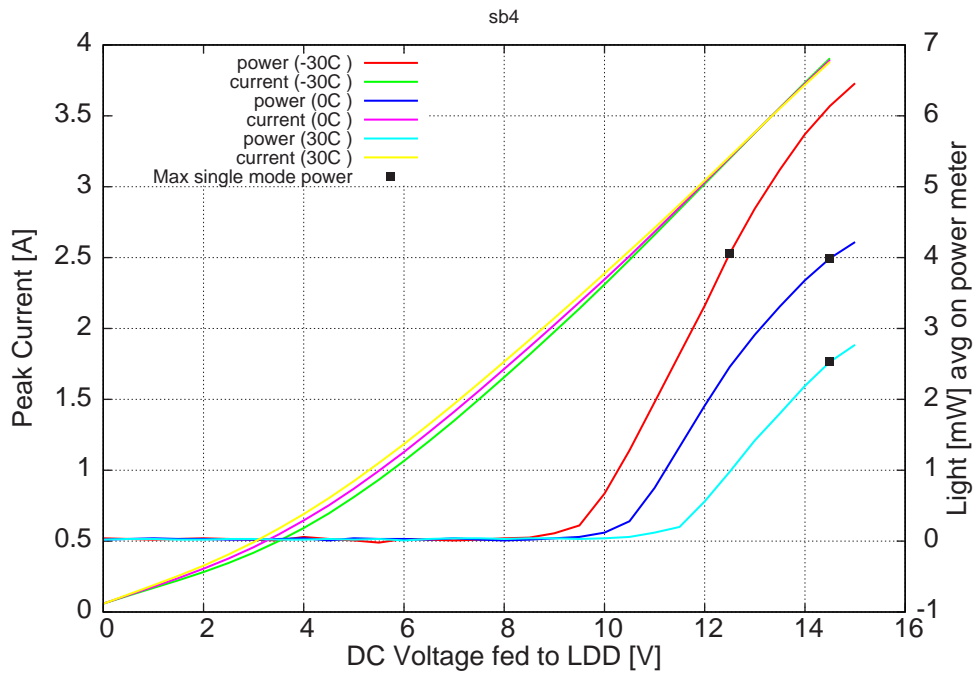


Figure 7: peak current and avg power vs LDD voltage (including the multimode region)

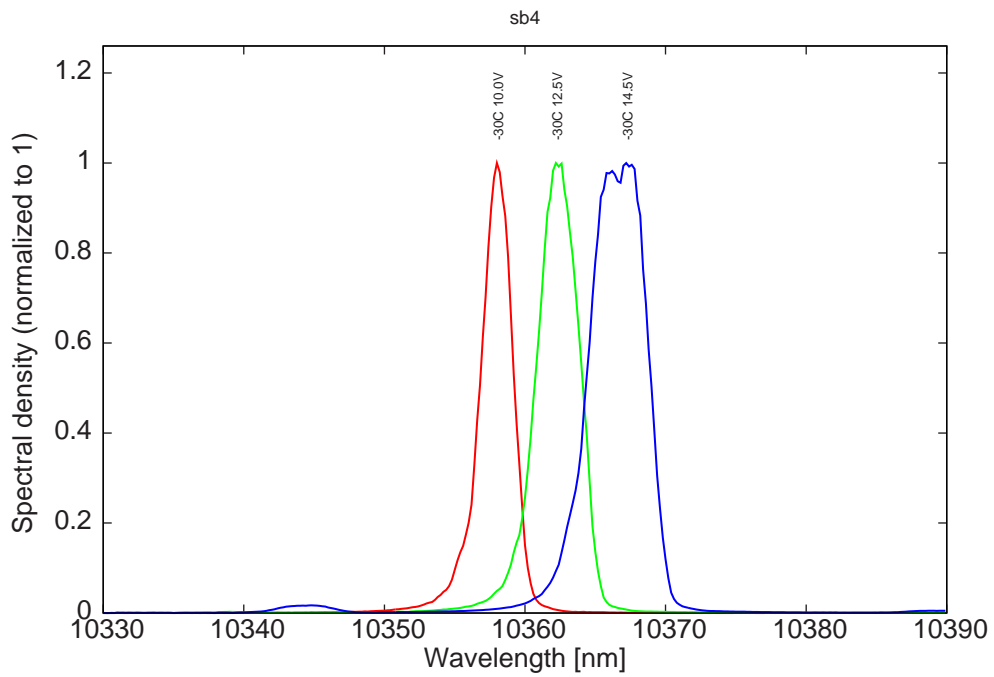


Figure 8: spectra at -30°C for various LDD voltages

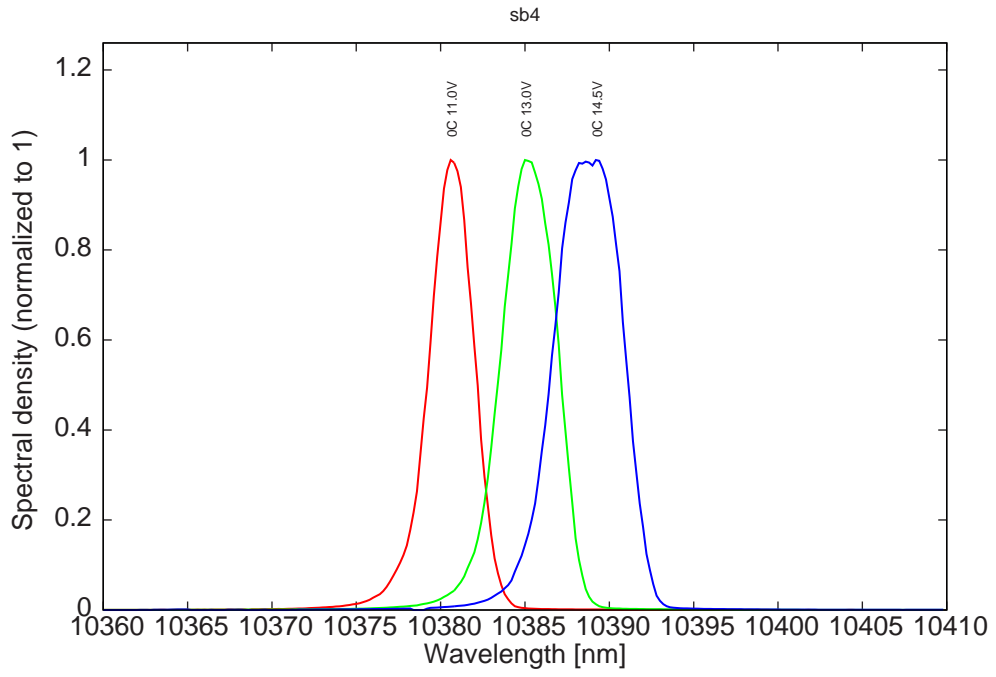


Figure 9: spectra at 0°C for various LDD voltages

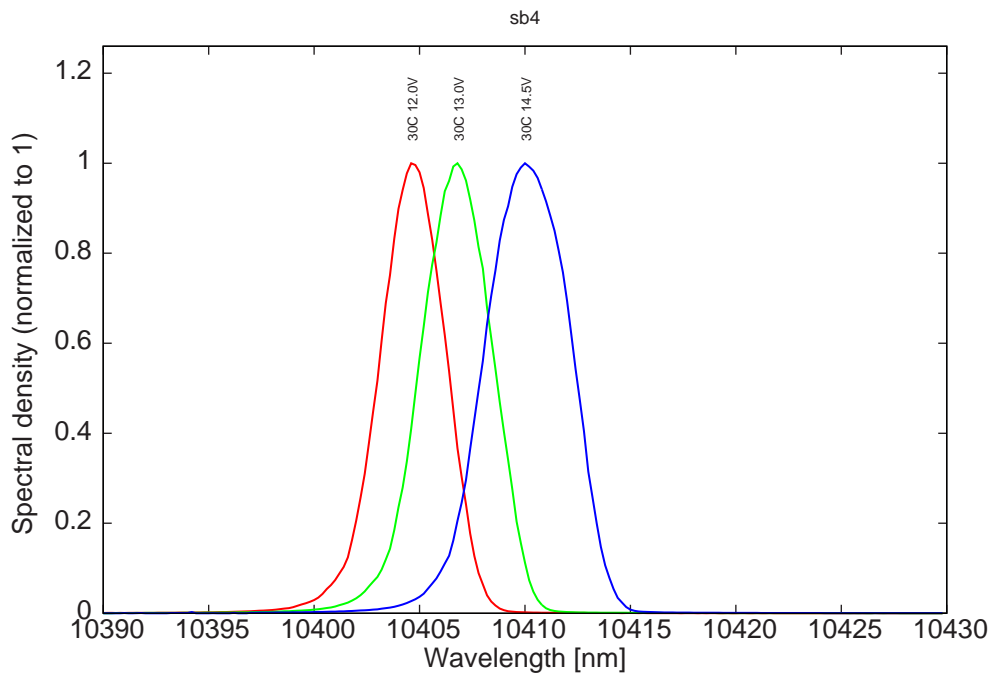


Figure 10: spectra at 30°C for various LDD voltages

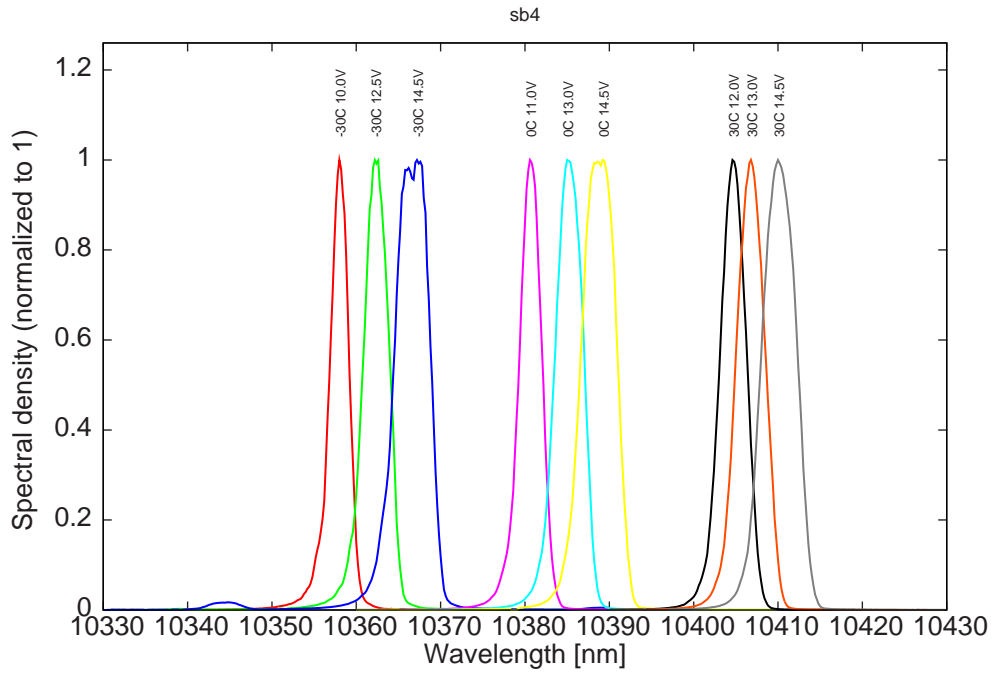


Figure 11: spectra (overview from -30°C to 30°C) for various LDD voltages