

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

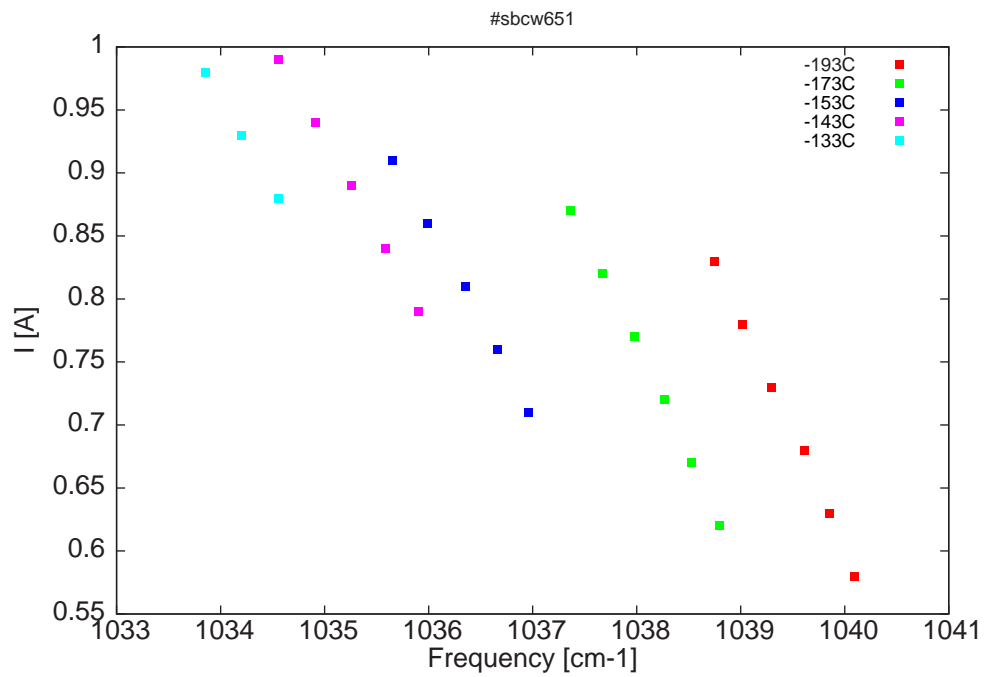


Figure 3: Applied DC current as a function of singlemode emission frequencies and temperatures

$\lambda$ [nm]	$\nu$ [cm <sup>-1</sup> ]	P[mW]	Temp[°C]	$U_{LASER}$ [V]	I[A]
9614.5	1040.1	0.1	-193	7	0.58
9616.7	1039.9	7	-193	7	0.63
9619	1039.6	17.1	-193	7	0.68
9621.9	1039.3	26.6	-193	7	0.73
9624.4	1039	35.3	-193	7	0.78
9627	1038.7	43.7	-193	7	0.83
9626.5	1038.8	0.2	-173	6.8	0.62
9629	1038.5	6.1	-173	6.8	0.67
9631.5	1038.3	14.1	-173	6.8	0.72
9634.1	1038	21.6	-173	6.8	0.77
9637	1037.7	28.9	-173	6.8	0.82
9639.8	1037.4	35.5	-173	6.9	0.87
9643.6	1037	0.1	-153	6.6	0.71
9646.3	1036.7	4.2	-153	6.6	0.76
9649.2	1036.4	9.9	-153	6.6	0.81
9652.6	1036	15.4	-153	6.6	0.86
9655.8	1035.6	20.4	-153	6.7	0.91
9653.4	1035.9	0.2	-143	6.5	0.79
9656.4	1035.6	4.1	-143	6.5	0.84
9659.4	1035.3	8.6	-143	6.6	0.89
9662.6	1034.9	12.3	-143	6.6	0.94
9666	1034.6	15.5	-143	6.6	0.99
9666	1034.6	0.1	-133	6.5	0.88
9669.3	1034.2	3	-133	6.5	0.93
9672.6	1033.9	6.2	-133	6.5	0.98

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

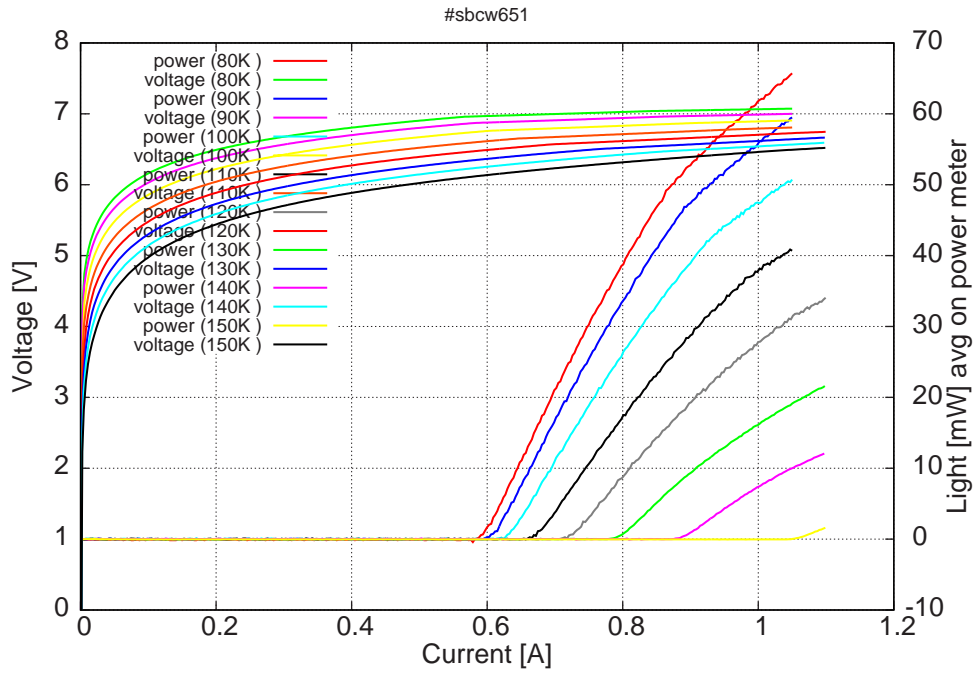


Figure 4: voltage and avg power vs current in continuous-wave operation (the solid squares indicate the maximum singlemode emitted power)

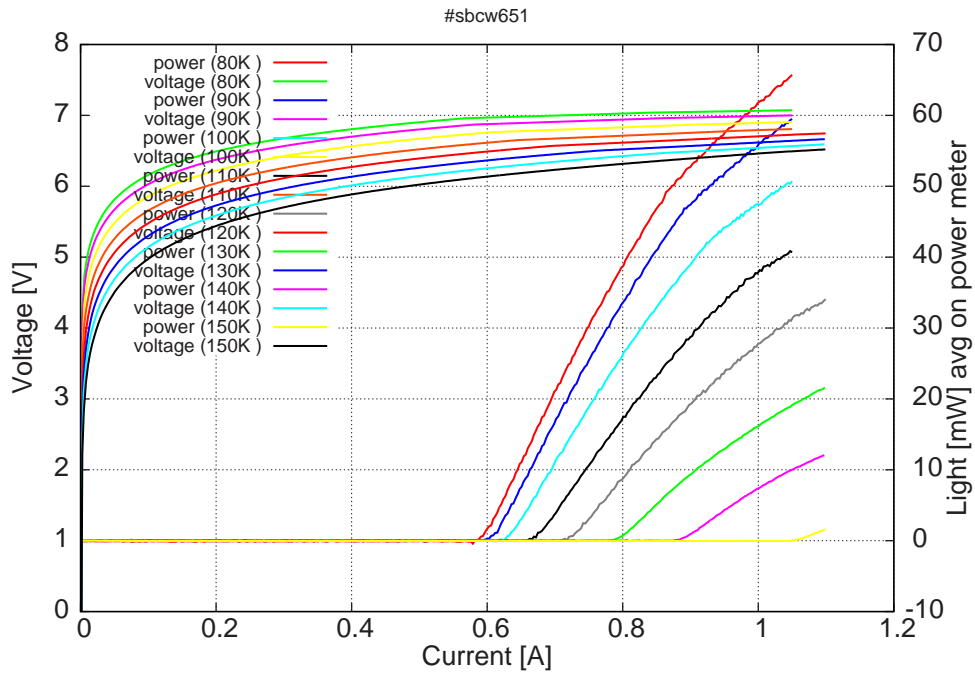
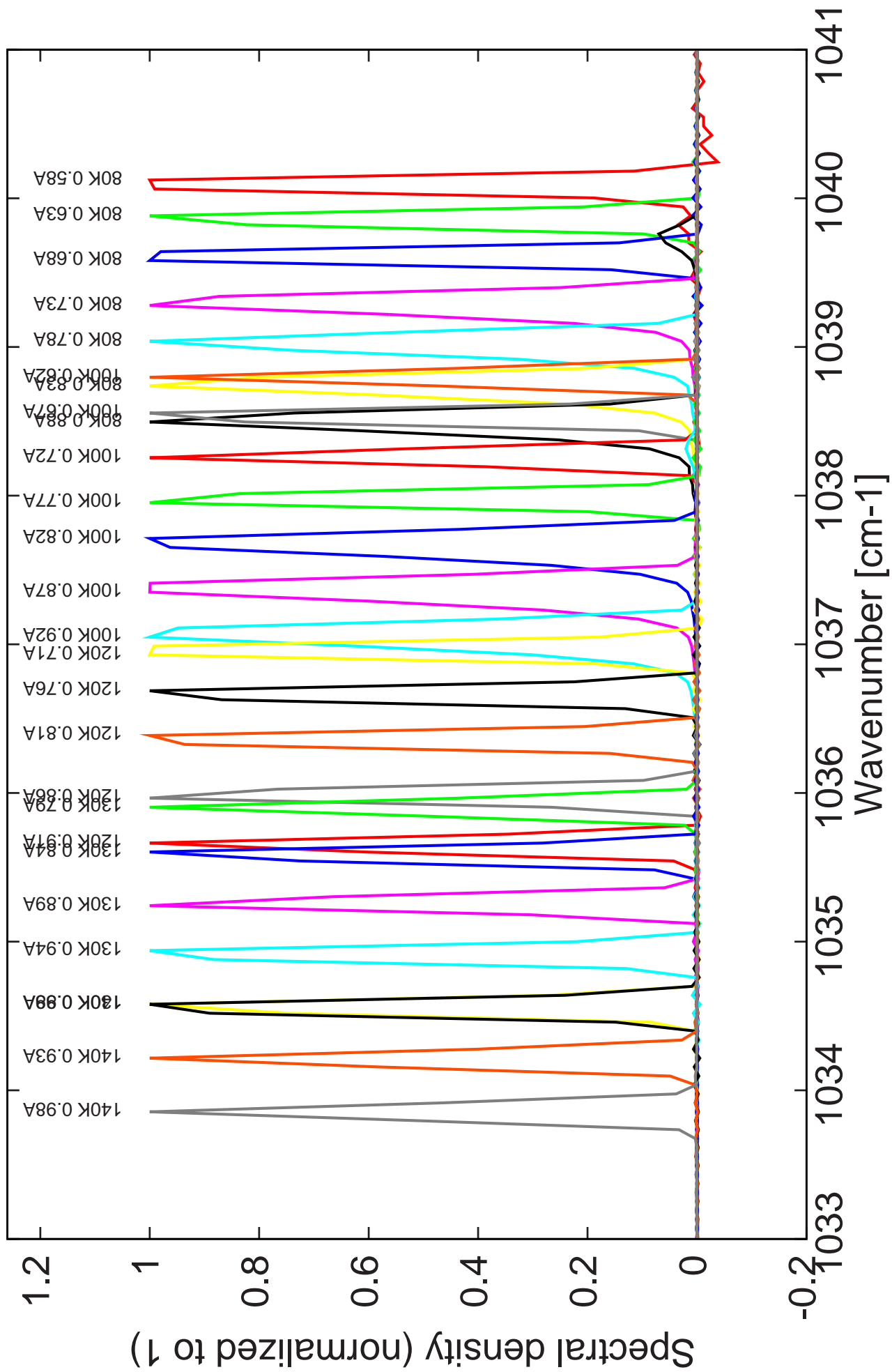


Figure 5: voltage and avg power vs current in continuous-wave operation (including the multimode region)

Note: at 80K:  $I_{th} = 580 \text{ mA}$  /  $V_{th} = 6.94 \text{ V}$  (4-wires measurements). Maximum operation current: between 80K and 120K: 1.0A and between 130K and 140K: 1.03A.

Figure 4: spectra at 80, 100, 120, 130 and 140 K for various DC currents



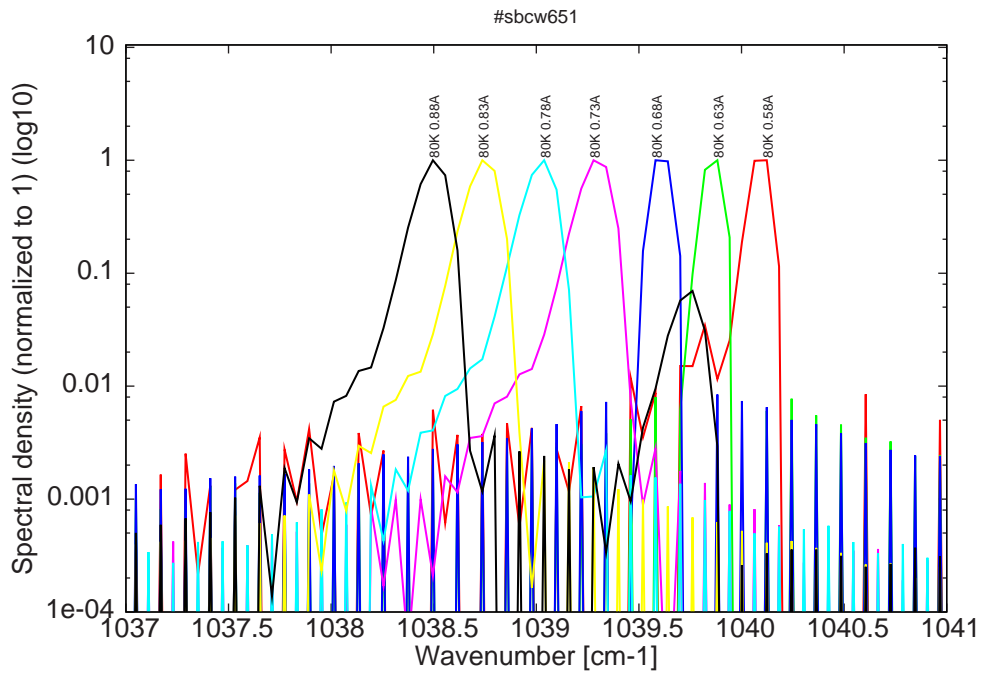


Figure 6: spectra at 80K for various DC currents (bimode for  $I > 0.83A$ )

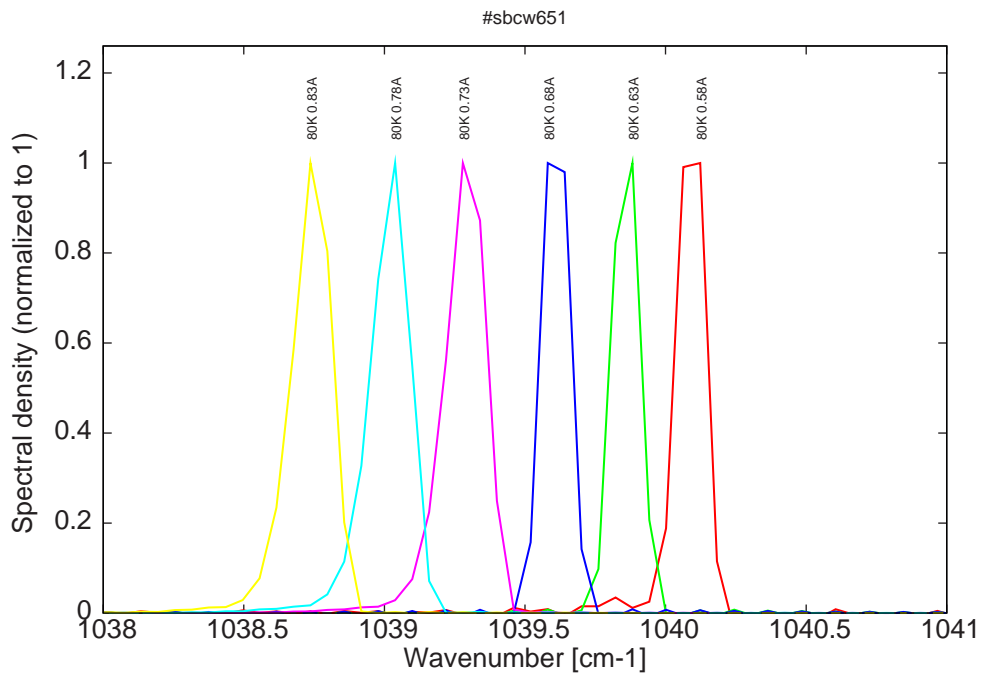


Figure 7: spectra at 80K for various DC currents (monomode range)

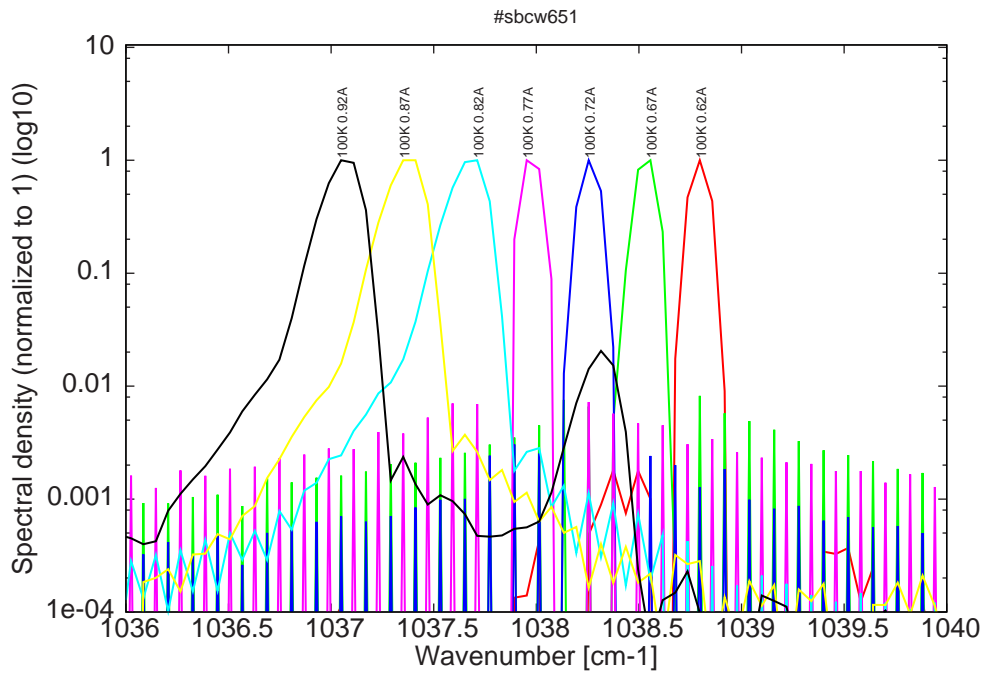


Figure 8: spectra at 100K for various DC currents (bimode for  $I > 0.87A$ )

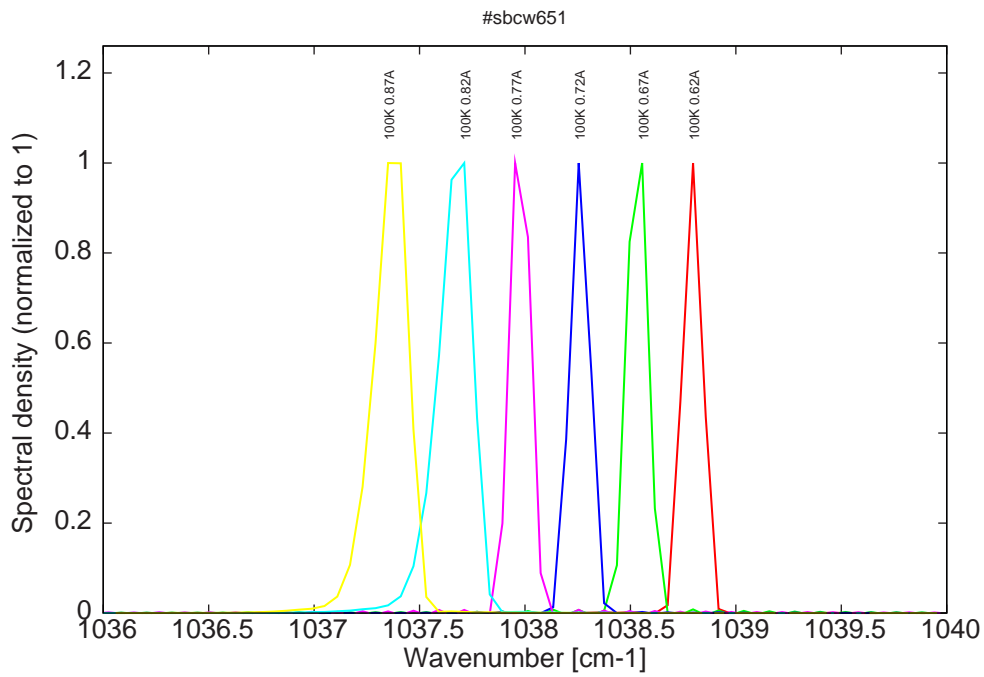


Figure 9: spectra at 100K for various DC currents (monomode range)

Figure 9: spectra at 120K, 130K and 140K for various DC currents (all monomode)

