Measurements on PCM11

**Structure of data: Excitation wavelength – Probe range – full beam power – power through 2mm pinhole**

17th February 2017

700nm – NIR – 12 mW – 5.5 mW

700nm – NIR – 6.9 mW – 2.78 mW

700nm – NIR – 1.55 mW – 0.62 mW

700nm – VIS – 9 mW – 3.7 mW

700nm – VIS – 2.73 mW – 1.1 mW

700nm – VIS – 5.4 mW – 2.14 mW

20th February 2017

850nm – VIS – 2.67 mW – 1.28 mW

850nm – VIS – 9.9 mW – 4.2 mW

850nm – VIS – 2.52 mW – 0.95 mW

850nm – VIS – 4.5 mW – 1.82 mW

900nm – VIS – 7.4 mW – 2.51 mW

900nm – NIR – 7.4 mW – 2.47 mW

24th February 2017

900nm – NIR – 6.2 mW – 1.88 mW

900nm – NIR – 10 mW – 3.1 mW

900nm – NIR – 21.2 mW – 6.7 mW

900nm – VIS – 21 mW – 6.8 mW

900nm – VIS – 10 mW – 3.3 mW

26th February 2017

900nm – VIS – 6.1 mW – 1.98 mW

800nm – VIS – 5.8 mW – 2.3 mW

800nm – VIS – 9.6 mW – 3.9 mW

800nm – VIS – 9.7 mW – 3.9 mW

800nm – NIR – 9.8 mW – 4 mW

800nm – NIR – 6.1 mW – 2.5 mW

21st June 2017

550nm – VIS – 1.32 mW – 0.48 mW (THIN)

550nm – NIR – 1.32 mW – 0.59 mW

700nm – NIR – 3.7 mW – 1.72 mW

600nm – NIR – 2.5 mW – 0.9 mW

600nm – NIR – 3.9 mW – 1.43 mW

500nm – NIR – 3.7 mW – 2.02 mW

500nm – NIR – 2.38 mW – 1.26 mW

13th October 2017

700nm – VIS – 2.66 mW – 1.18 mW

700nm – VIS – 2.17 mW – 0.9 mW

950nm – VIS – 10.1 mW – 2.51 mW

Measurements on CdSe companion: CM8

**Absorption spectrum analysis**

Blank absorption corrected for bumps

Blank absorption shifted up to match PCM12 absorption at 1350nm.

PCM12 corrected for blank.

Bleach of PbSe from TA measurement, cenral wl: 1224nm

Wavelenght of CdSe 1st absorption feature from fitting UV-VIS with line+Gaussian:

Lambda\_c = 590.6 nm +- 0.1 nm

Sigma = 11.4 nm +- 0.1 nm

Absorbance 1S = 28 mOD

**CdSe bleach fitting**

Line+Shift+Gauss:

17% difference in peak bleach between fixed parameters optimized to UV-VIS and optimize to shape of TA bleach.

(parameters optimized to bleach: )

( Lambda\_c = 594 nm )

( sigma = 10.4 nm )

From the fitting of 700nm excitation with difference fluence there seems to be a decrease of the peak bleach with increasing fluence.

**Summary of excitations**

Visible

550nm

* 1.32 mW – 0.48 mW [21/06/17] (THIN)

700nm

* 9 mW – 3.7 mW [17/02/17]
* 2.73 mW – 1.1 mW [17/02/17]
* 5.4 mW – 2.14 mW [17/02/17]
* 2.66 mW – 1.18 mW [13/10/17]
* 2.17 mW – 0.9 mW [13/10/17] (few average meas)

800nm

* 5.8 mW – 2.3 mW [26/02/17]
* 9.6 mW – 3.9 mW [26/02/17]
* 9.7 mW – 3.9 mW [26/02/17]

850nm

* 2.67 mW – 1.28 mW [20/02/17]
* 9.9 mW – 4.2 mW [20/02/17]
* 2.52 mW – 0.95 mW [20/02/17]
* 4.5 mW – 1.82 mW [20/02/17]

900nm

* 7.4 mW – 2.51 mW [20/02/17]
* 21 mW – 6.8 mW [24/02/17]
* 10 mW – 3.3 mW [24/02/17]
* 6.1 mW – 1.98 mW [26/02/17]

950nm

* 10.1 mW – 2.51 mW [13/10/17]

NIR

550nm

* 1.32 mW – 5.9 mW [21/06/17]

700nm

* 12 mW – 5.5 mW [17/02/17]
* 6.9 mW – 2.78 mW [17/02/17]
* 1.55 mW – 0.62 mW [17/02/17]

800nm

* 9.8 mW – 4 mW [26/02/17]
* 6.1 mW – 2.5 mW [26/02/17]

900nm

* 7.4 mW – 2.47 mW [20/02/17]
* 6.2 mW – 1.88 mW [24/02/17]
* 10 mW – 3.1 mW [24/02/17]
* 21.2 mW – 6.7 mW [24/02/17]