

Supporting Information for

Long-lived luminescence of colloidal silicon quantum dots for time-gated fluorescence imaging in the second near infrared window in biological tissue

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Figure. S1 PL spectra of all samples.

Figure. S2 PL peak wavelength and QY of all samples.

Figure. S3 Fluorescence images of Si QDs and Rhodamine B

PL spectra of all samples

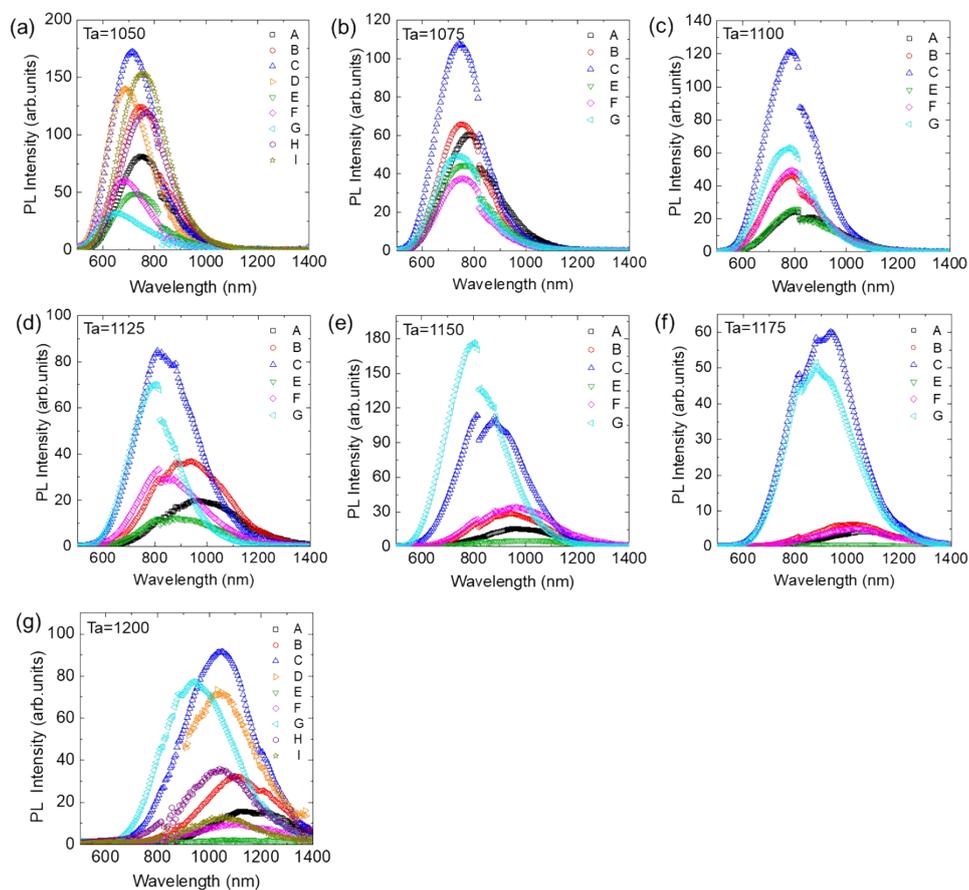


Figure. S1. PL spectra of all samples prepared. Growth temperatures are (a)1050°C, (b)1075°C, (c)1100°C, (d)1125°C, (e)1150°C, (f)1175°C and (g)1200°C.

PL peak wavelength and QY of all samples

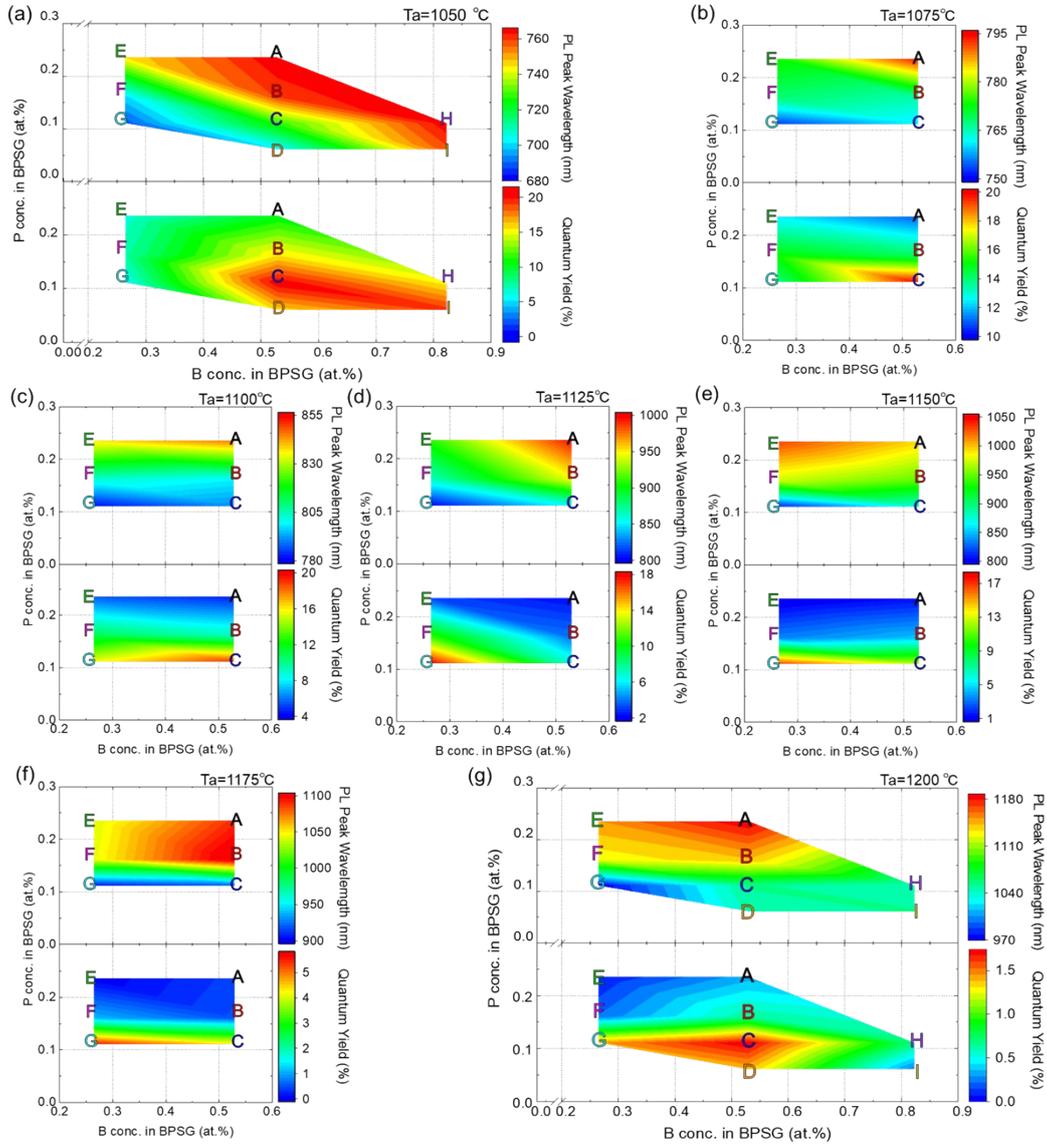


Figure. S2. Contour plots of PL peak wavelength (top) and QY (bottom) as a function of P and B concentration. The growth temperatures are (a)1050, (b)1075, (c)1100, (d)1125, (e)1150, (f)1175°C and (f)1200°C.

Fluorescence images of Si QDs and Rhodamine B

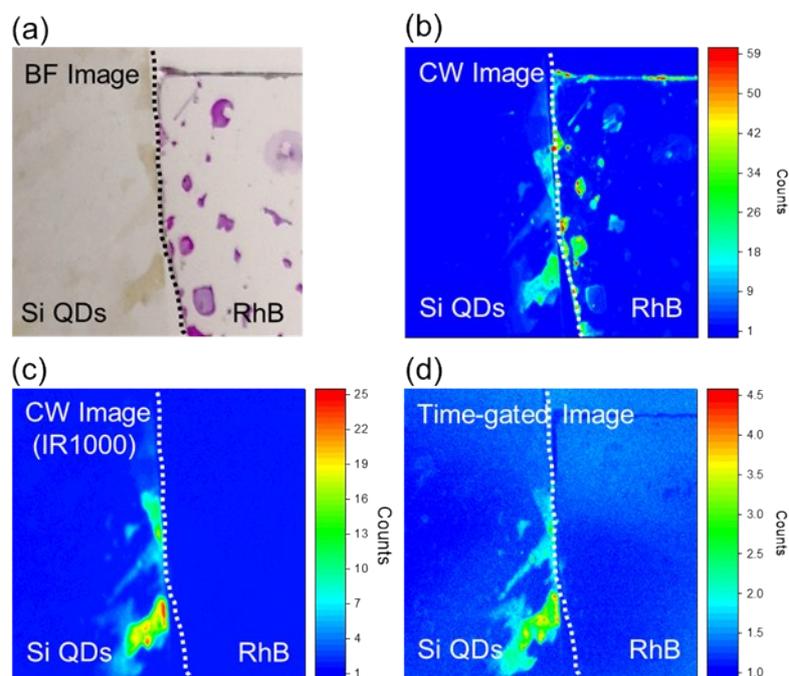


Figure. S3. Fluorescence images of Si QDs (C-1200) and Rhodamine B (RhB) in the same field. (a) Photographs of Si QDs (left) and RhB (right) dropped on separated silica substrates. Dashed line indicates boundary of two silica substrates. (b-d) Fluorescence images excited at 405 nm. (b) With 425 nm long pass filter and without time delay. (c) With 1000 nm long pass filter and without time delay. (d) Without 1000 nm long pass filter and with time delay. The delay time is 128 μ s.