



Figure 1: The two coloured diamonds (top, 7.79 ct; bottom, 5.90 ct) in this brooch were submitted to LFG for identification. Photo by Artcurial, © Studio Sebert.

## Large and Unusually Coloured Type IIb Diamonds, Possibly Cut from the Same Rough

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a 0.1 second acquisition time, 50 accumulations and spectral resolution of about 1.5 nm.

Photoluminescence (PL) spectra were acquired in the 520–900 nm range at liquid nitrogen temperature (approximately  $-196^{\circ}\text{C}$ ), using a Renishaw inVia spectrometer coupled with an optical microscope, with 514 nm laser excitation from a diode-pumped solid-state laser. Laser power on the sample was about 10 mW, and the spectral resolution was about 0.1 nm, using a 10 s exposure time and one accumulation. Deep-UV luminescence images were obtained using a DiamondView instrument.

### RESULTS AND DISCUSSION

Table I provides a summary of the main characteristics of the two diamonds. Both have a pear shape with an extra-large culet, reminiscent of an ‘old cut’. Sample A weighed 7.79 ct and measured  $16.07 \times 10.81 \times 6.58$  mm, and sample B was smaller, weighing 5.90 ct and measuring  $14.18 \times 10.43 \times 5.89$  mm (again, see Figure 2). The colour of the stones was Fancy Dark grey with, for sample A, green and brown modifiers and, for sample B, a green modifier (King 2006). Such



Figure 2: The two pear-shaped old-cut diamonds were unmounted from the brooch in Figure 1 for further examination. Sample A measures  $16.07 \times 10.81 \times 6.58$  mm and has a dark greenish brownish grey colour; sample B is  $14.18 \times 10.43 \times 5.89$  mm and is dark greenish grey. They are both type IIb diamonds. Composite photo by A. Delaunay, © LFG.