1 Supplementary material for LHCb-PAPER-2015-044

Figure 1: Output value of the selection BDT for $B^0_s \rightarrow J/\psi \gamma$ simulated signal events (filled red), $B^0_s \rightarrow J/\psi \gamma$ data candidates in the background region (red line), simulated $B^0 \rightarrow K^{*0}\gamma$ decays (green line) and $B^0 \rightarrow K^{*0}\gamma$ data events.

Figure 2: Mass distribution of signal candidates with the fit result overlaid, allowing for a $B^0 \rightarrow J/\psi \gamma$ signal.
Figure 3: Mass fit to data for the two different converted photon reconstruction categories, long and downstream.