## Structure of the RecQ C-terminal Domain of Human Bloom Syndrome Protein.

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#### Supplementary Fig. S1. SDS-PAGE of purified BLM RQC.

Fractions from gel-filtration chromatography, using a HiLoad 26/60 Superdex 75pg column (GE Healthcare), were analyzed by SDS-PAGE (15% polyacrylamide gel, stained with Coomassie Blue). The sample was also analyzed by TOF-MS to compare the mass with the calculated mass based on the primary sequence (TOF-MS / calc., in parentheses).

# abCNative - PO43-Native - AsO43-SeMet - PO43-0.2 mm0.2 mm0.2 mm

### Supplementary Fig. S2. Crystallization of BLM RQC.

(a) Crystals of BLM RQC in complex with the phosphate ion. (b) Crystals of BLM RQC in complex with the arsenate ion. (c) Crystals of SeMet-labeled BLM RQC in complex with the phosphate ion.

#### Supplementary Fig. S3. Electron densities of the BLM $\beta$ -wing. A composite-omit map contoured at 1.0 $\sigma$ is superimposed (Mol-A). The BLM $\beta$ wing, comprising 19 residues, is slightly longer than that of WRN (16 residues).





#### Supplementary Fig. S4.

**Interactions between the C-term extended loop (blue) and RQC core (yellow).** Hydrophobic interactions are shown as curves and hydrogen bonds (< 3.3 Å) as dashed lines.