#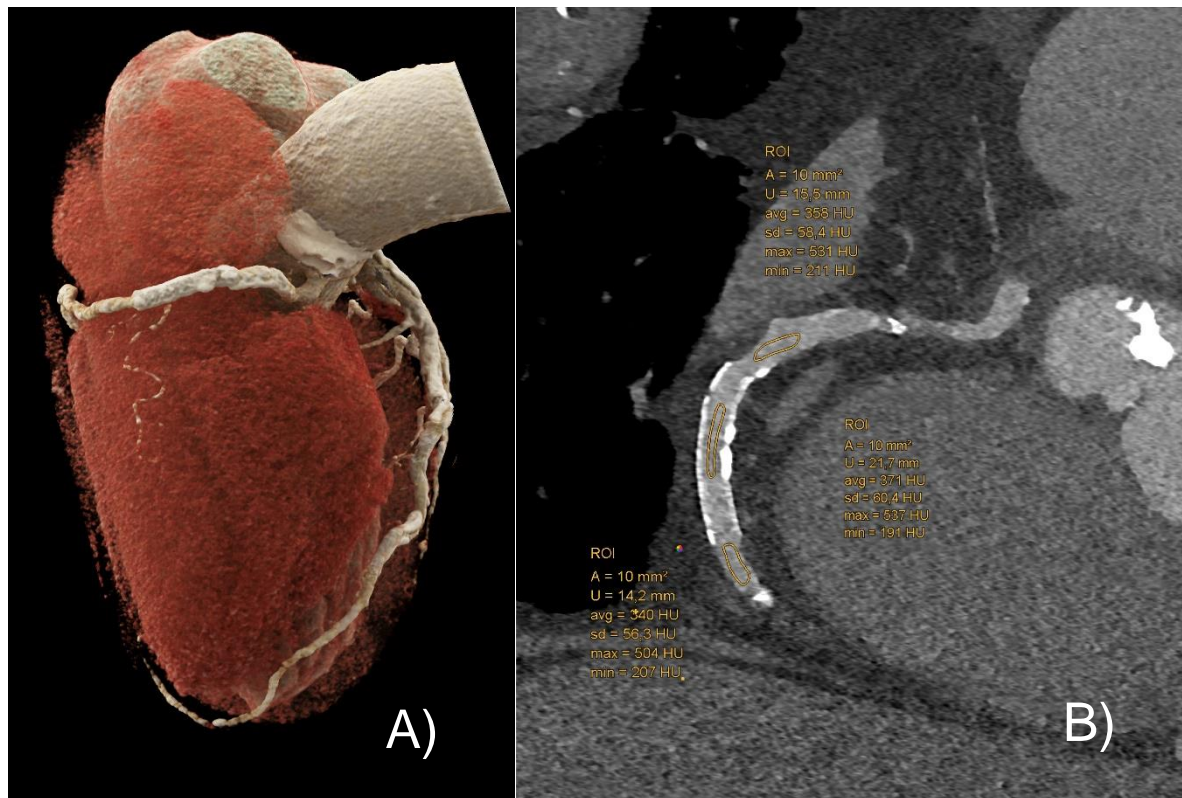 Ultra-high-resolution photon-counting detector CT in evaluating coronary stent patency: a comparison to invasive coronary angiography

## Electronic Supplementary Material (ESM)

**Supplementary Table 1:** Technical parameters for ultra-high-resolution photon-counting detector CT-angiography

| Technical parameters | Values |
|---|---|
| Scan mode | ECG-synchronized retrospective spiral CTA |
| z-coverage | 120 x 0.2 mm |
| Spatial resolution | 0.11 mm in-plane |
| Gantry rotation time | 250 ms |
| Pitch | Depending on the patient's heart rate, preset at 0.2 |
| Spectral information | Not available at ultra-high-resolution scan |
| Dose modulation | ECG-pulsing set at 15 – 80 % of the R–R interval |
| Tube voltage | Automatically determined (Care kV), either 120kV or 140 kV |
| Tube current | Automatic tube current modulation (CareDose mAs) |

Abbreviations: *ECG* electrocardiogram, *CTA* computed tomography angiography, *R–R interval* time elapsed between two consecutive R waves of a patient's electrocardiogram.

**Supplementary Figure 1.** Ultra-high-resolution photon-counting CT-angiography of an 85-year-old patient with previous stent implantation in the right coronary artery. A: Three-dimensional cinematic rendering showing the stent in segment 2 of the right coronary artery (RCA). B: Multiplanar reformation of the right coronary artery.

To quantify the stent-induced effect on the in-stent lumen attenuation ($\Delta HUin\_stent$), manually drawn regions of interest (ROI) are placed in the stent lumen ($ROI_{in\_stent}$) and ROIs of the same size (here: $10mm^2$) in the proximal ($ROI_{prox}$) and distal ($ROI_{dist}$) adjacent coronary vessel. The average Hounsfield Units (HU) are noted and $\Delta HUin\_stent$ *is calculated as follows:*

$$\Delta\text{HUin\_stent} = \text{ROIin\_stent HU} - \frac{\text{ROIprox HU} + \text{ROIdist HU}}{2} \quad => \quad 371\text{ HU} - \frac{(358\text{ HU} + 340\text{ HU})}{2} = +22\text{ HU}.$$