

**Table 1S Baseline Clinical Characteristics**

	CAD III N=384	CAD IV N=64	SOLSTICE N=20	CAD IV P-value <sup>†</sup>	CAD III P-Value <sup>††</sup>
Age (Year)	71.2 ± 8.6	75.0 ± 8.0	65.2 ± 8.1	0.0001	0.0024
Male	76%	75%	80%	0.77	1.0
Hypertension	89%	83%	70%	0.21	0.0217
Hyperlipidemia	89%	86%	45%	0.0005	0.0001
Diabetes mellitus	40%	48%	50%	0.2197	0.4844
Current smoker	12%	14%	25%	0.31	0.1586
Renal insufficiency*	26%	23%	0%	0.017	0.0056
Angina Class					
0	13%	27%	5%		
I	15%	39%	53%		
II	37%	33%	21%		
III	33%	2%	21%		
IV	2%	0%	0%		

**Table 2S Angiographic Characteristics**

		CAD III N = 384	CAD IV N = 64	SOLSTICE N = 20	CAD IV P-value <sup>†</sup>	CAD III P Value <sup>††</sup>
Target vessel	LAD	56.5%	75.0%	80%		0.0607
	LCx	12.8%	6.3%	5%		
	RCA	29.2%	17.2%	15%		
	LM	1.6%	1.6%	0%		
Reference vessel diameter, mm		3.0 ± 0.5	2.9 ± 0.4	2.8 ± 0.3	0.31	0.0773
Minimum lumen diameter, mm		1.1 ± 0.4	1.00 ± 0.34	0.79 ± 0.38	0.02	0.0008
Diameter stenosis, %		65.1 ± 10.8	65.8 ± 10.9	72.7 ± 12.0	0.02	0.0024
Lesion length, mm		26.0 ± 11.7	27.5 ± 10.4	27.6 ± 7.4	0.97	0.5456
Calcified length, mm		47.9 ± 18.8	49.8 ± 15.5	46.0 ± 9.66	0.30	0.6540
Severe calcification		100%	100%	100%	1.0	1.0

**Table 3S Pre-procedure OCT Characteristics**

	CAD III N = 100	CAD IV N = 71	SOLSTICE N = 20	CAD IV P-value <sup>†</sup>	CAD III P-Value <sup>††</sup>
At Max calcium site					
Calcium angle	292.5 ± 76.5	257.9 ± 78.4	300.41 ± 51.19	0.03	0.6480
Max calcium thickness	0.96 ± 0.25	0.96 ± 0.27	0.99 ± 0.12	0.63	0.5943
At MLA site					
Calcium angle	189.2 ± 96.0	152.1 ± 82.2	188.85 ± 76.28		0.9870
Max calcium thickness	0.87 ± 0.30	0.85 ± 0.30	0.81 ± 0.24		0.3796

**Table 4S Procedural Characteristics**

	CAD III	CAD IV	SOLSTICE	CAD III P-Value <sup>† †</sup>
Pre-dilatation	55.2%	20.3%	65.0%	0.2530
IVL catheters	1.2 ± 0.5	1.6 ± 1.1	1.1 ± 0.3	0.3764
IVL pulses	68.8 ± 31.9	104 ± 55.7	61.5 ± 28.1	0.3164
Max IVL inflation pressure, atm	6.0 ± 0.3	6.0 ± 0.0	6.0 ± 0.0	1.0
Post-IVL dilatation	20.7%	1.6 %	47.4%	0.0186
Number of stents	1.3 ± 0.5	1.1 ± 0.3	1.1 ± 0.3	0.0773
Stent delivery	99.2%	100%	100%	1.0
Post-stent dilatation	99.0%	100%	100%	1.0

**Table 5S Angiographic Outcomes**

	CAD III N = 384			CAD IV N = 64			SOLSTICE N = 20		
	Pre-procedure	Post-IVL	Final	Pre-procedure	Post-IVL	Final	Pre-procedure	Post-IVL	Final
DS%	65.1 ± 10.8	37.2 ± 13.5	17.8 ± 8.8	65.8 ± 10.9	38.0 ± 12.9	15.9 ± 7.9	72.7 ± 12.0	34.9 ± 12.6	13.1 ± 5.7
MLD	1.06 ± 0.36	1.87 ± 0.48	2.74 ± 0.43	1.00 ± 0.34	1.82 ± 0.49	2.42 ± 0.40	0.79 ± 0.38	1.90 ± 0.43	2.65 ± 0.43
Acute gain	/	0.82 ± 0.48	1.68 ± 0.46	/	0.82 ± 0.486	1.67 ± 0.37	/	1.2 ± 0.45	1.86 ± 0.37