

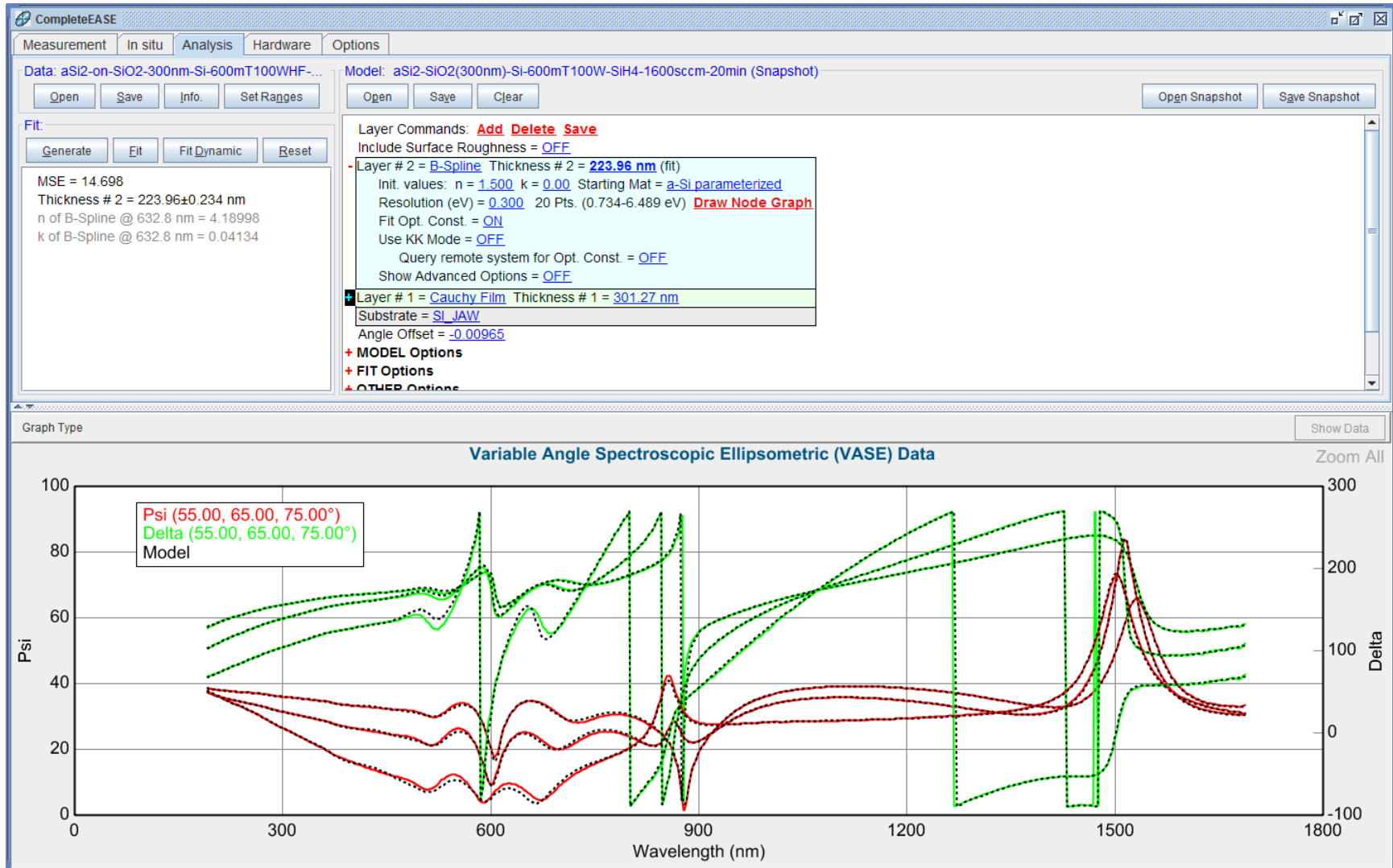
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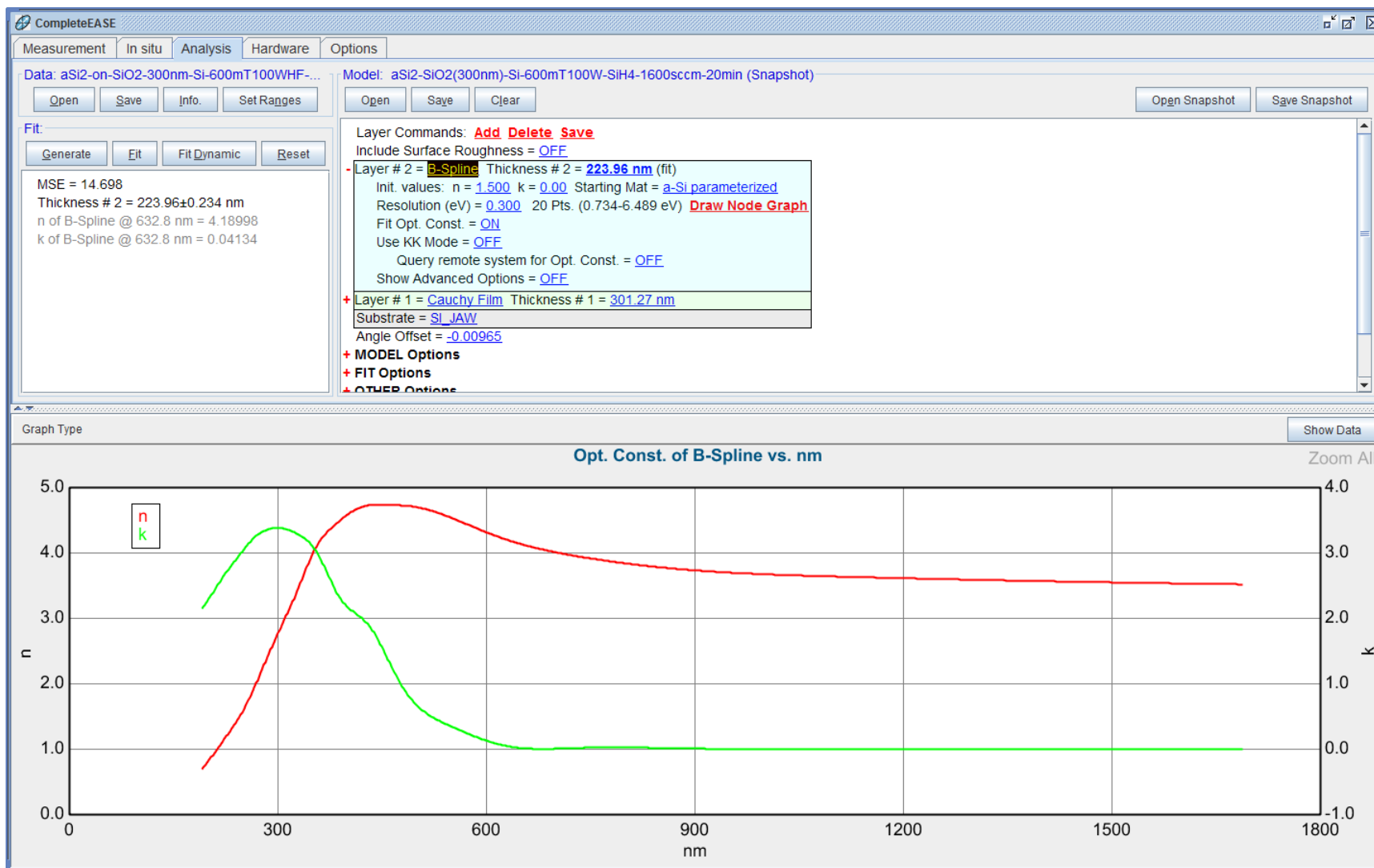
Amorphous Si films were deposited on SiO ₂ (~200 nm)/Si substrate using Advanced Vacuum PECVD2 tool							
wafer#	Pressure (mT)	HF Power (W)	Gas Flow-rate (sccm)		Chuck Temperature (°C)	Film Deposition Rate (nm/min)	Stress (~200nm film thickness)
			SiH ₄ (2% in He)	N ₂			
1	600	30	1500	0	300	6.65	-945
2	600	100	1600	0	300	12.8	-1265
3*	800	30	1500	500	300	6.15	-465
4	600	30	1600	0	200	7.05	-1271
5	600	15	1600	0	300	5.6	-850
6	700	30	1800	0	300	5.49	-1245

*: The stress is lower because there is a SiN_x component in the film (see the ellipsometry data, optical constants spectra, below).

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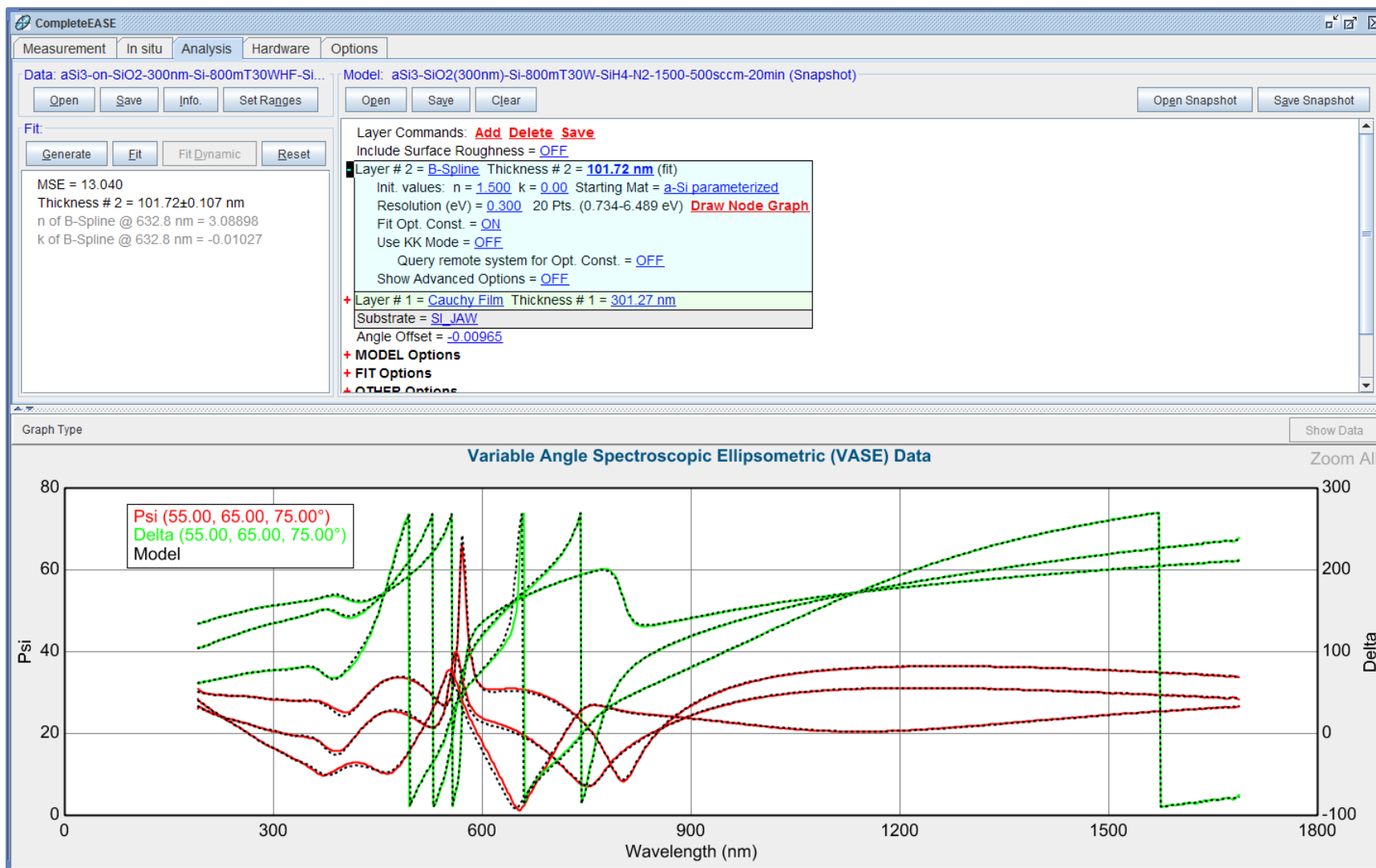
1)a-Si#2: 600mT, 100W (HF), SiH4(2% in He) flow-rate=1600sccm, chuck temperature=300°C, and deposition time=20 minutes.

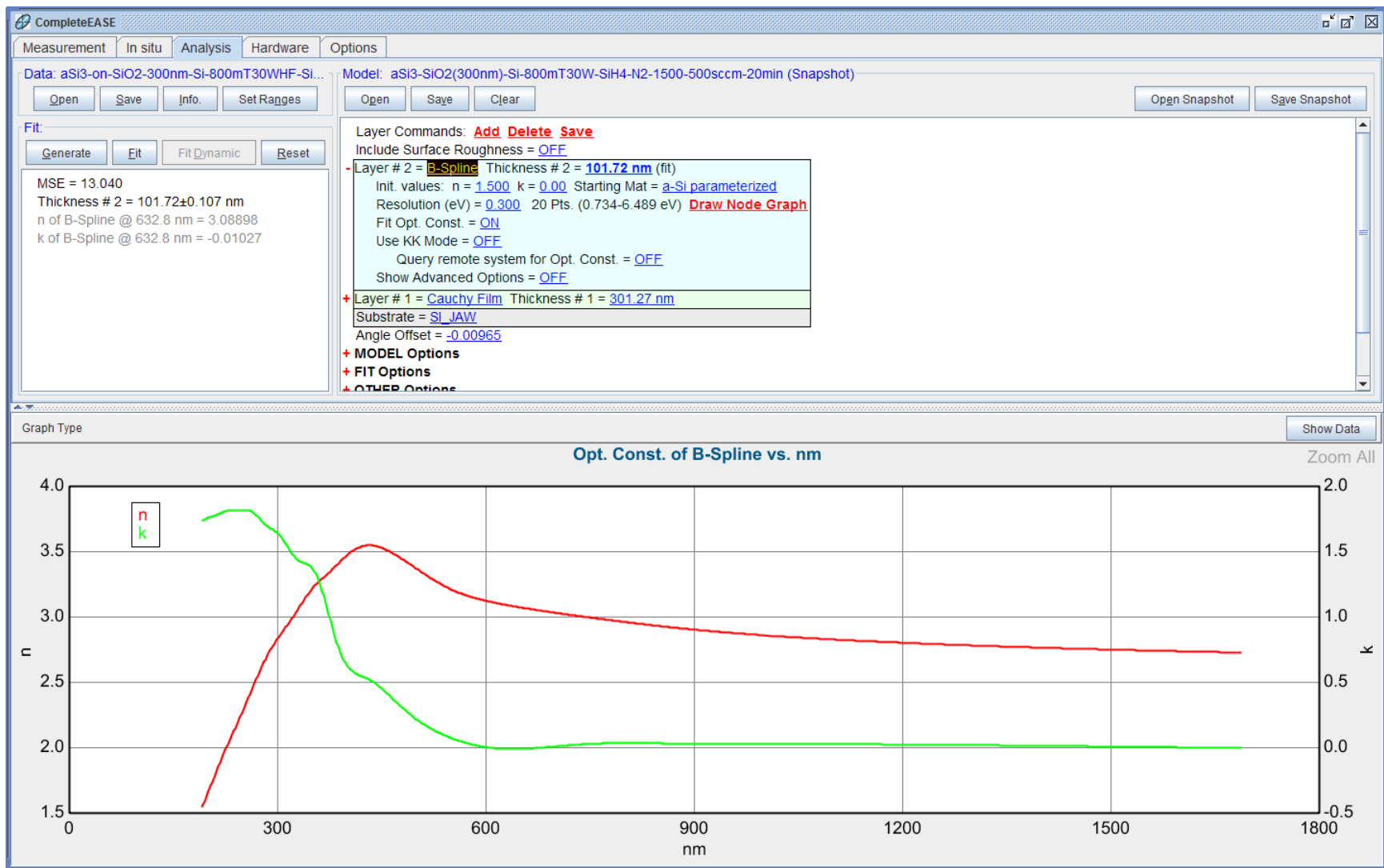




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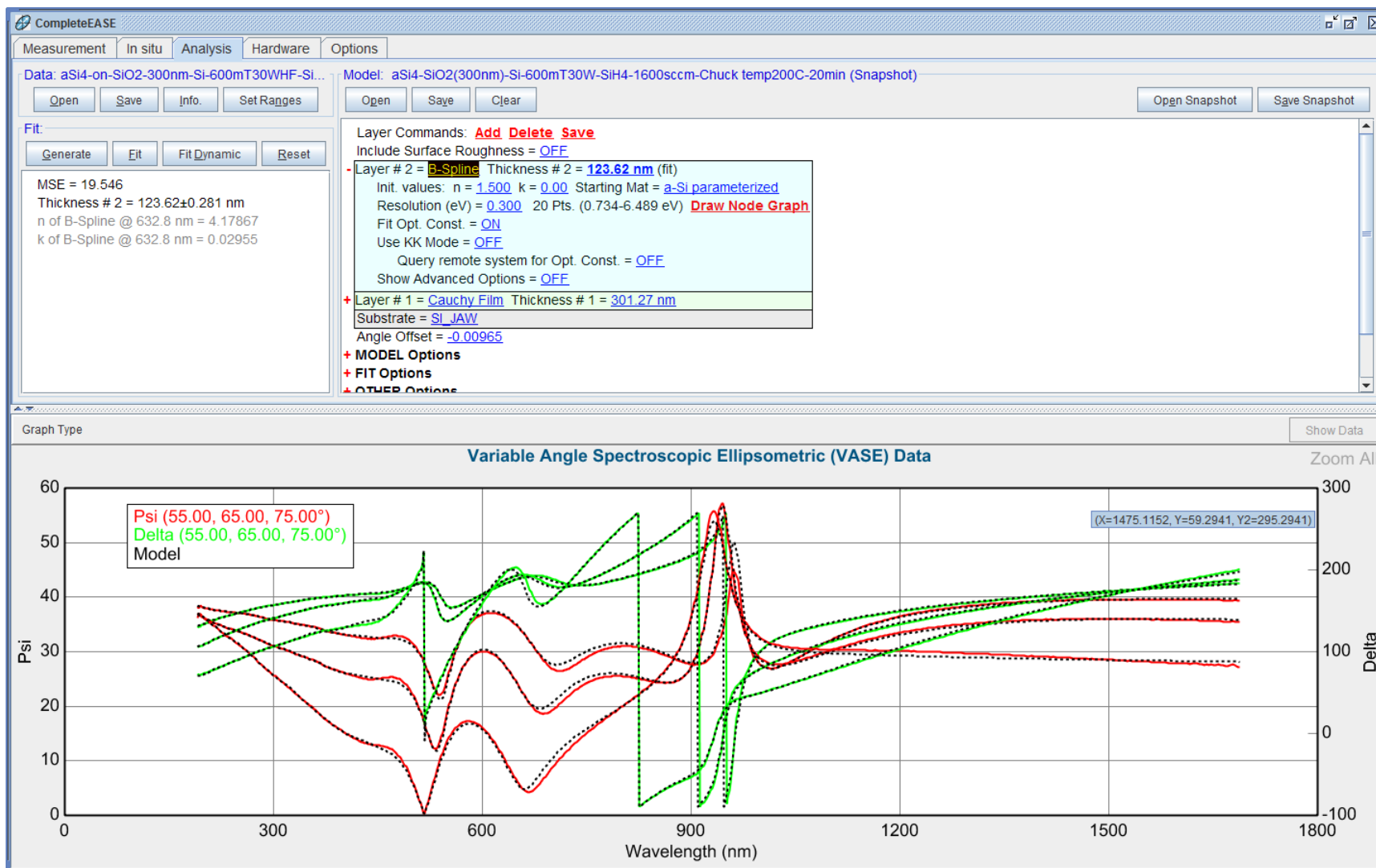
2) aSi#3: 800mT, 30W (HF), SiH4(2% in He)/N2 flow-rate=1500/500sccm, chuck temperature=300°C, and deposition time=20 minutes.

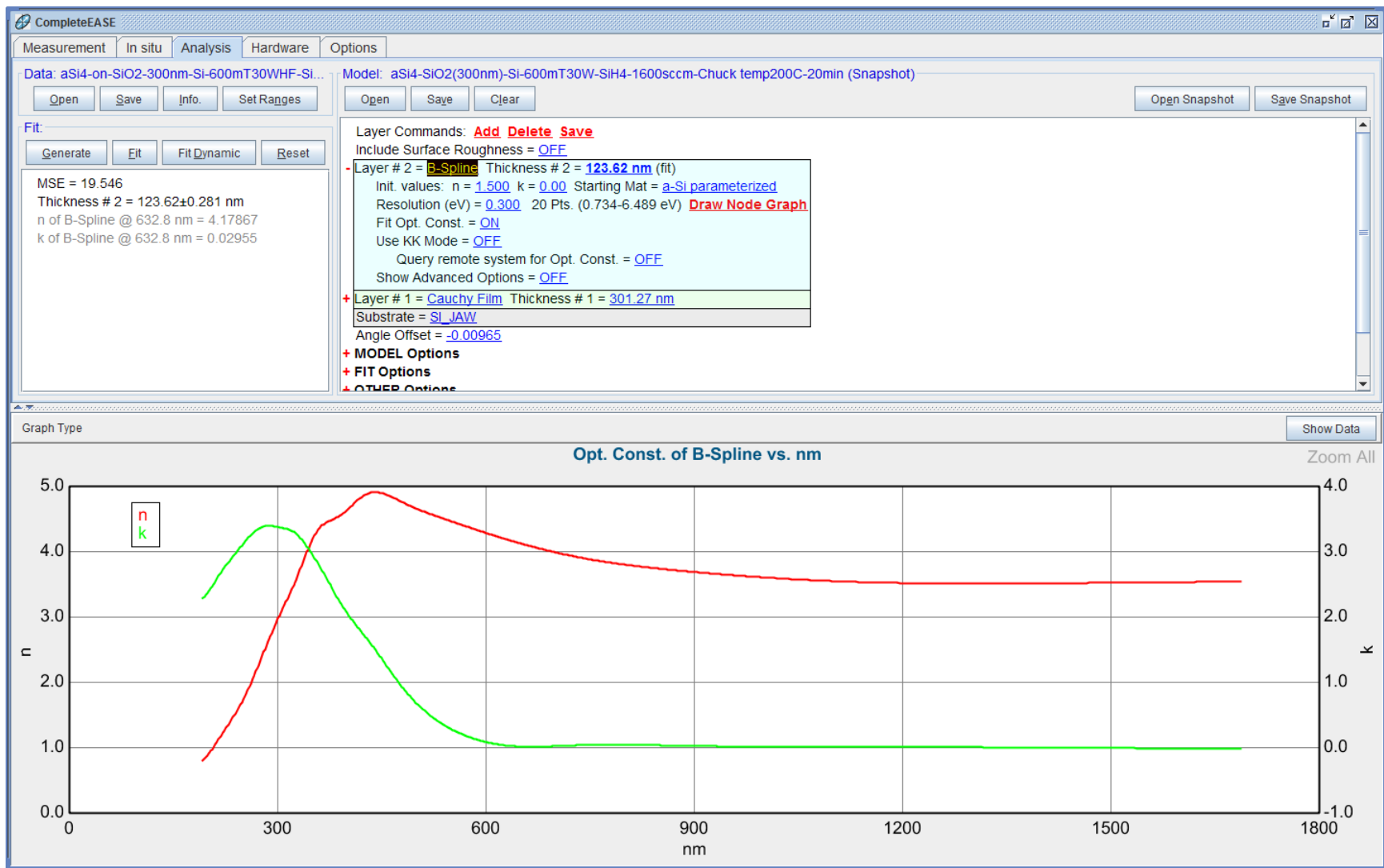




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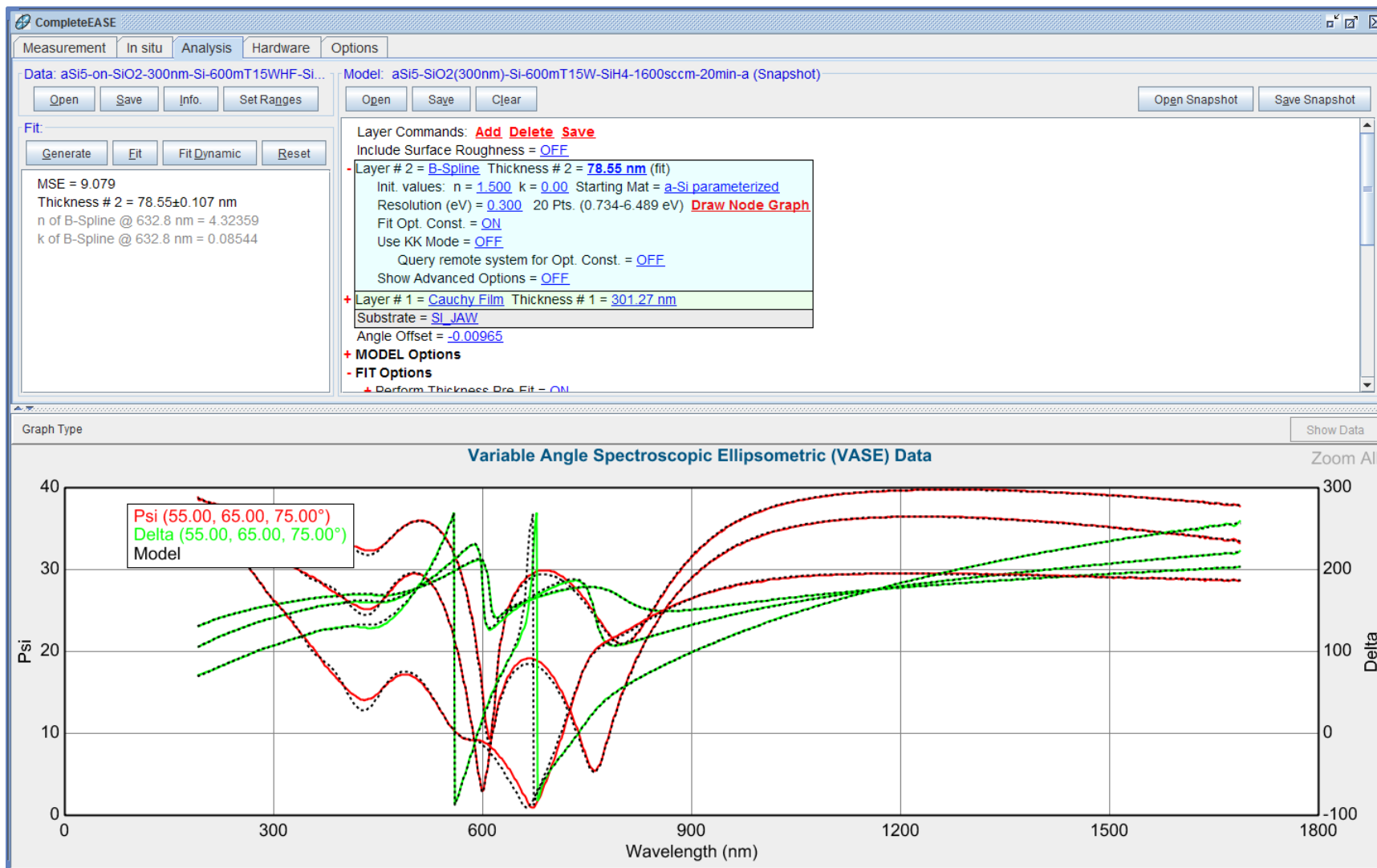
3)a-Si#4: 600mT, 30W (HF), SiH4(2% in He) flow-rate=1600 sccm, chuck temperature=200°C, and deposition time=20 minutes.

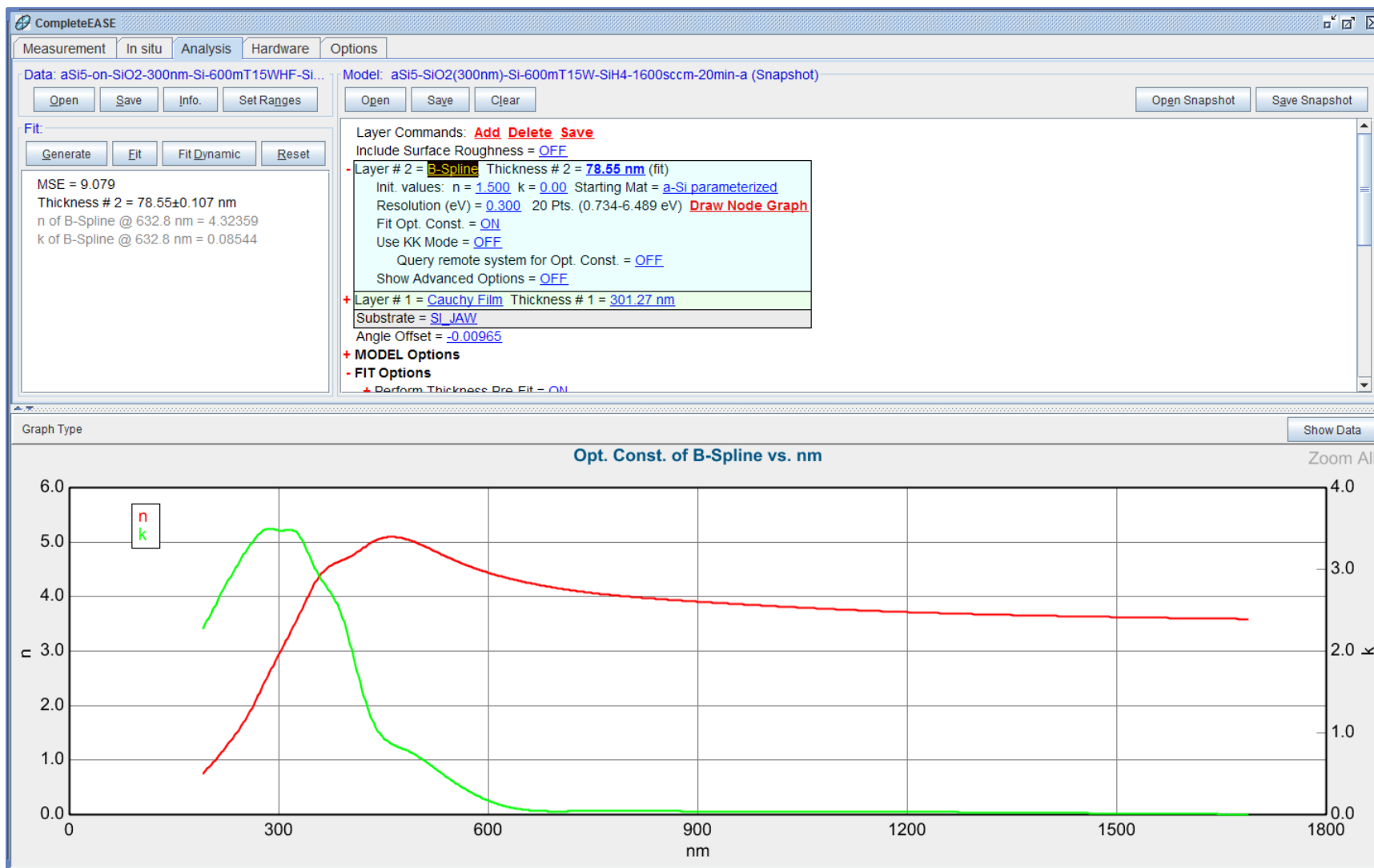




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4)a-Si#5: 600mT, 15W (HF), SiH4(2% in He) flow-rate=1600 sccm, chuck temperature=300°C, and deposition time=20 minutes.





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5)a-Si#2: 700mT, 30W (HF), SiH4(2% in He) flow-rate=1800sccm, chuck temperature=300°C, and deposition time=20 minutes.

