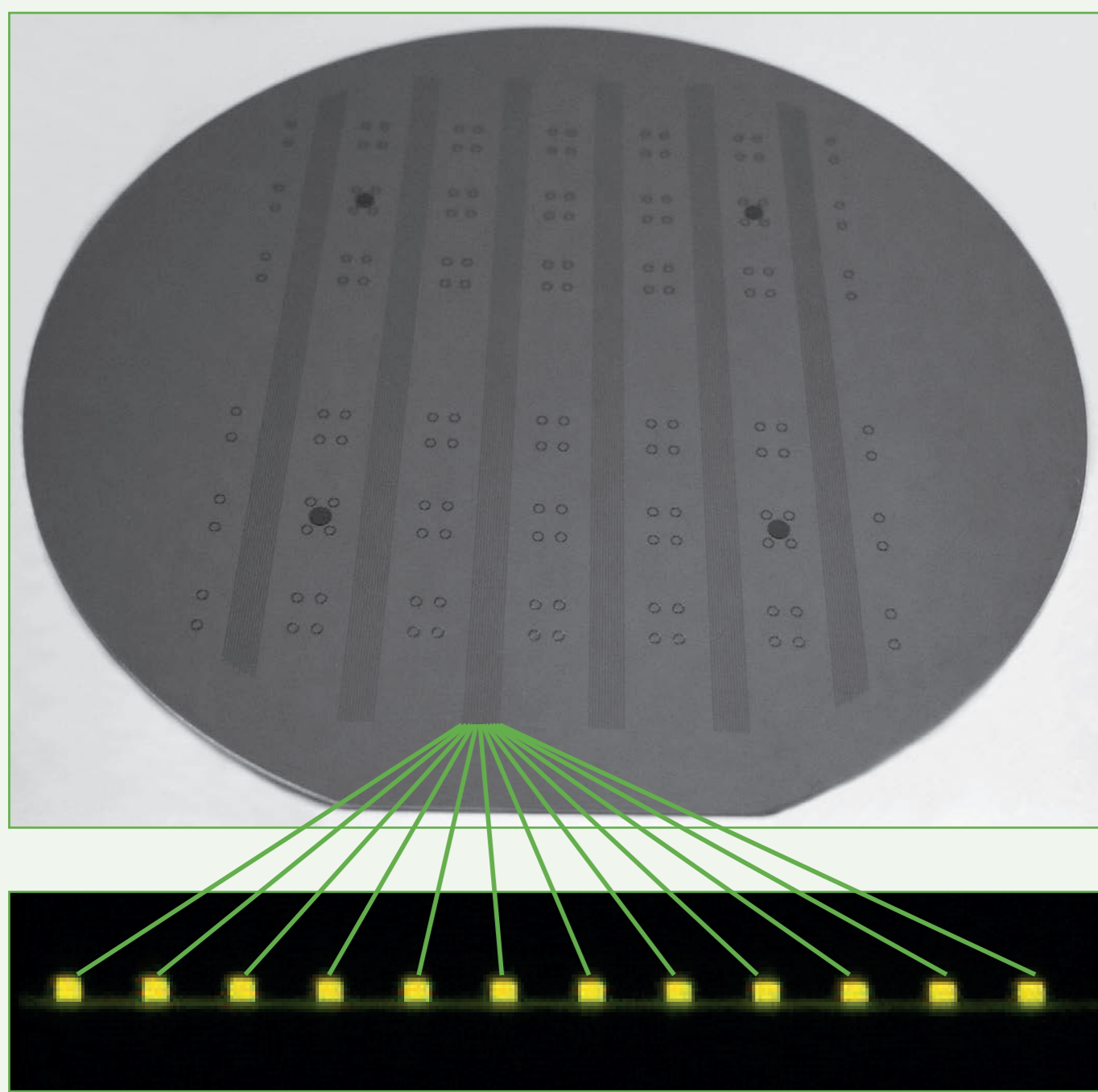
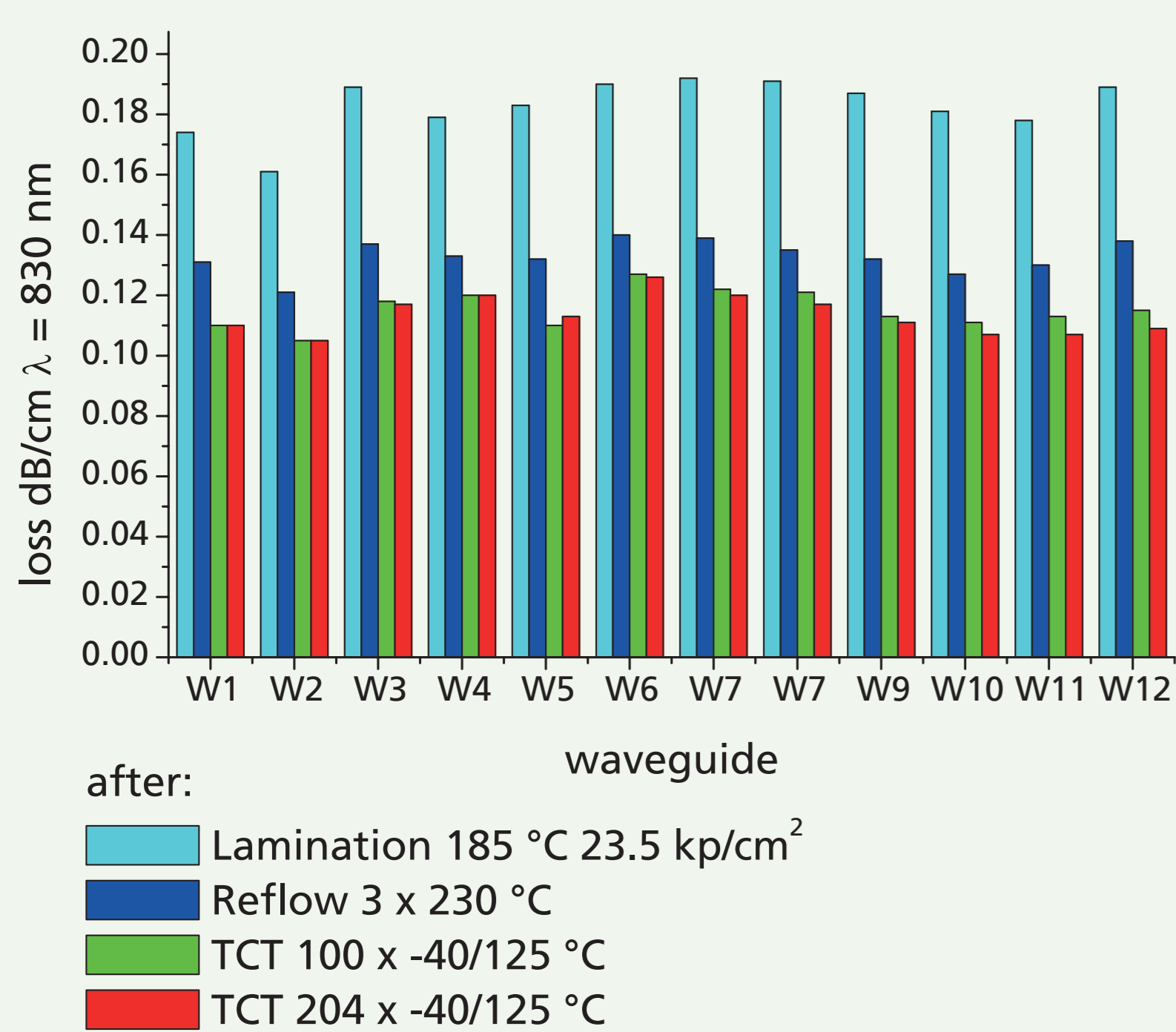


EpoCore & EpoClad - Negative Tone Photoresist Series

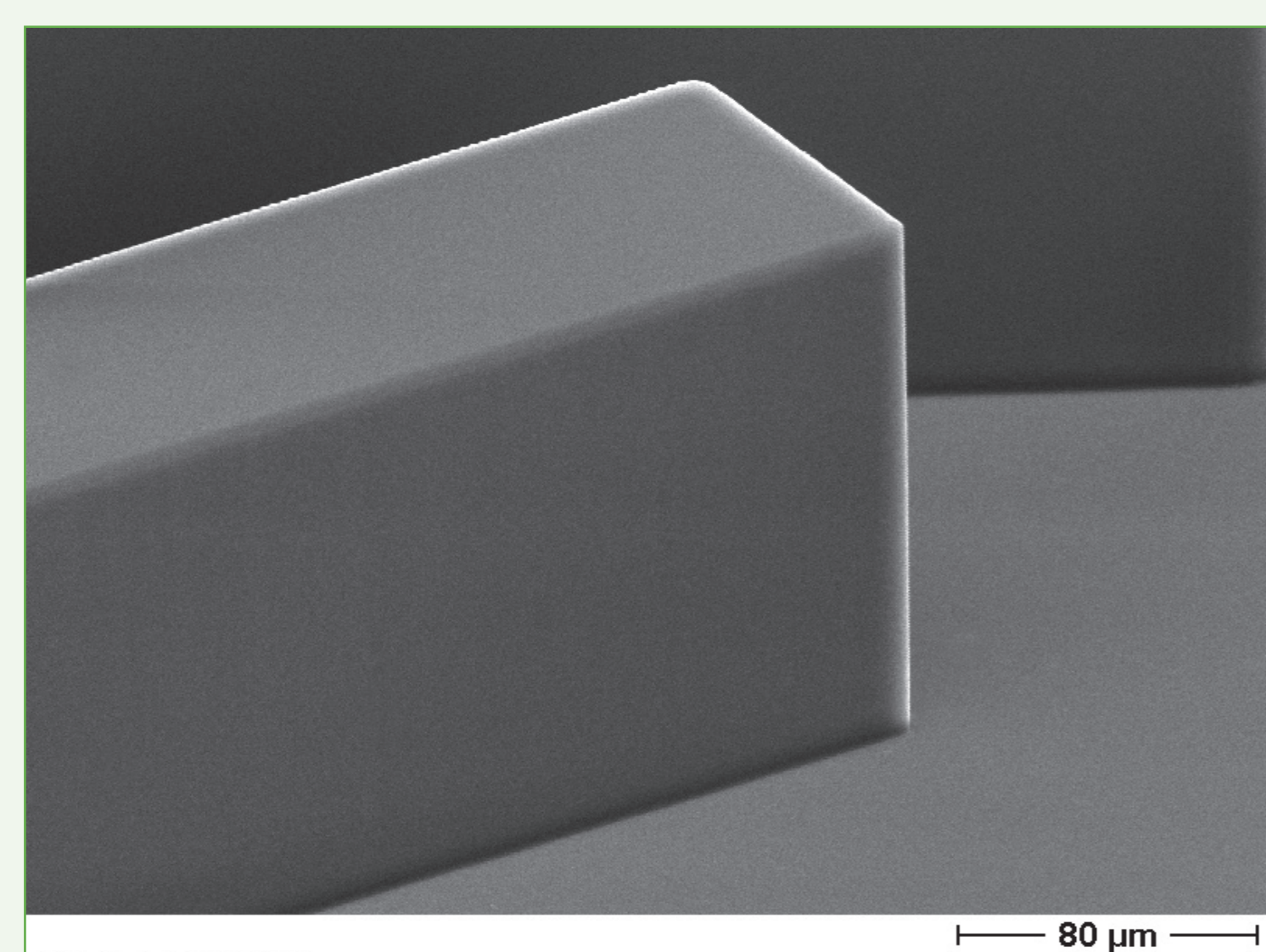
For manufacture of optical single mode (SM) & multi mode (MM) waveguides



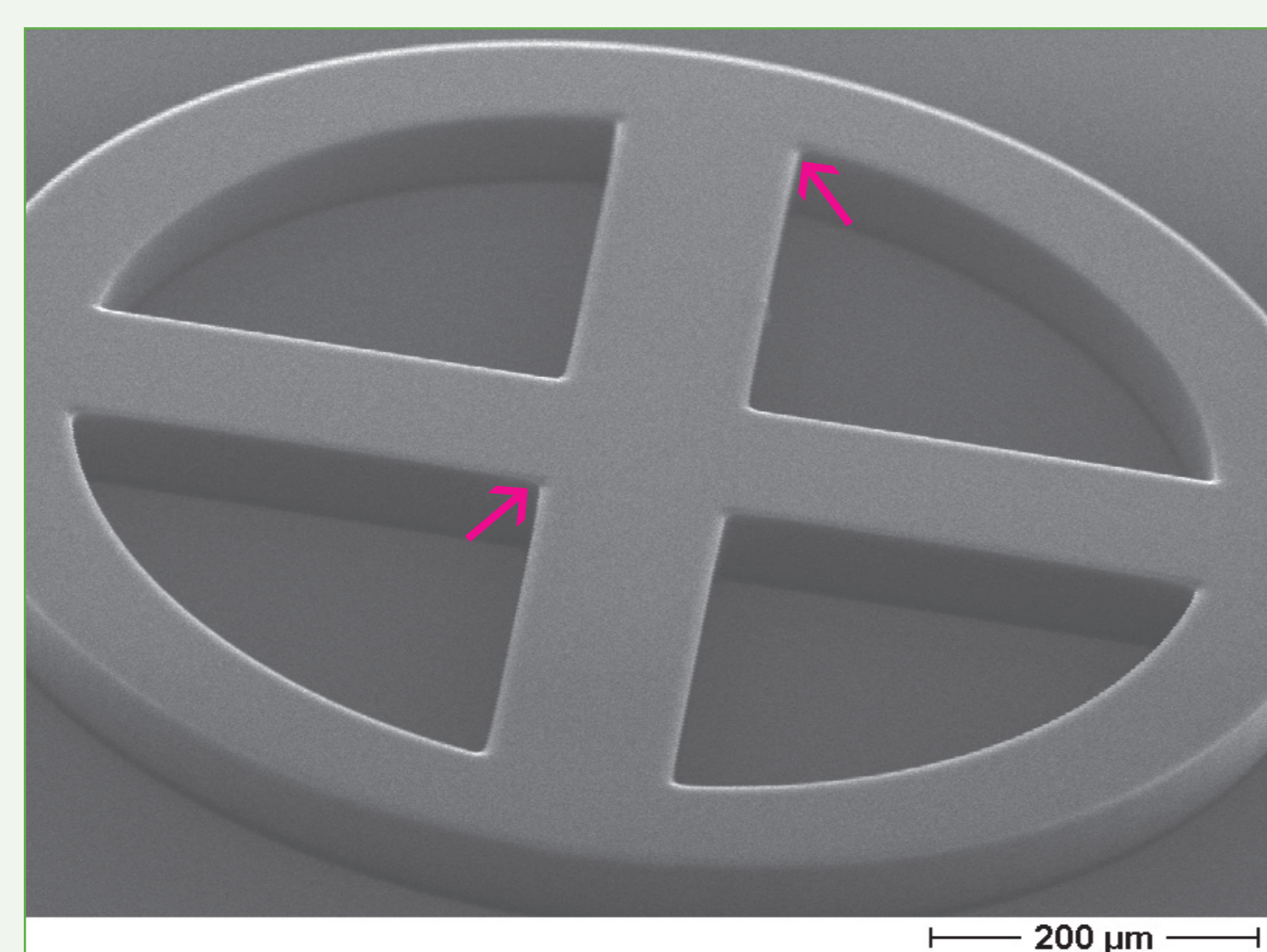
EpoCore/ EpoClad waveguides



Optical loss after lamination and TCT



EpoCore waveguide with smooth surface and vertical sidewalls



EpoCore pattern, no microcracks on critical spots

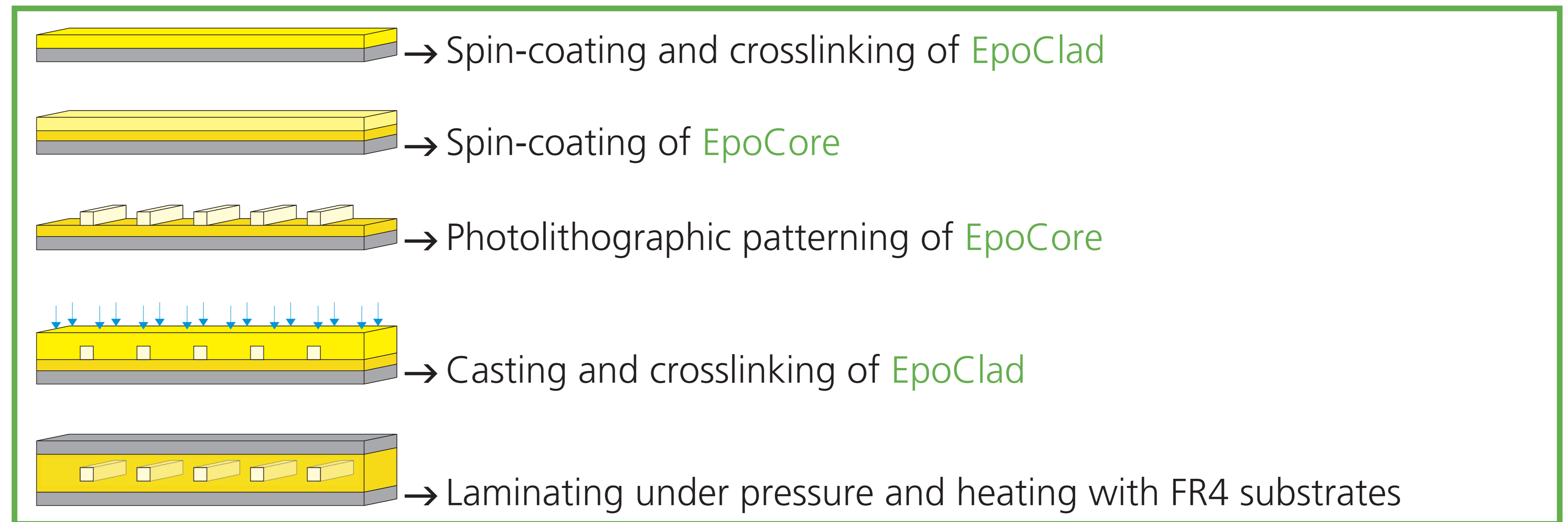
Unique features

- Standard UV lithography & PCB technology processing
- UV patterning of core and cladding
- High transmittance @ 850 nm
- High heat (> 230 °C) and pressure resistance
- Tunable refractive index (core/ cladding)

Applications

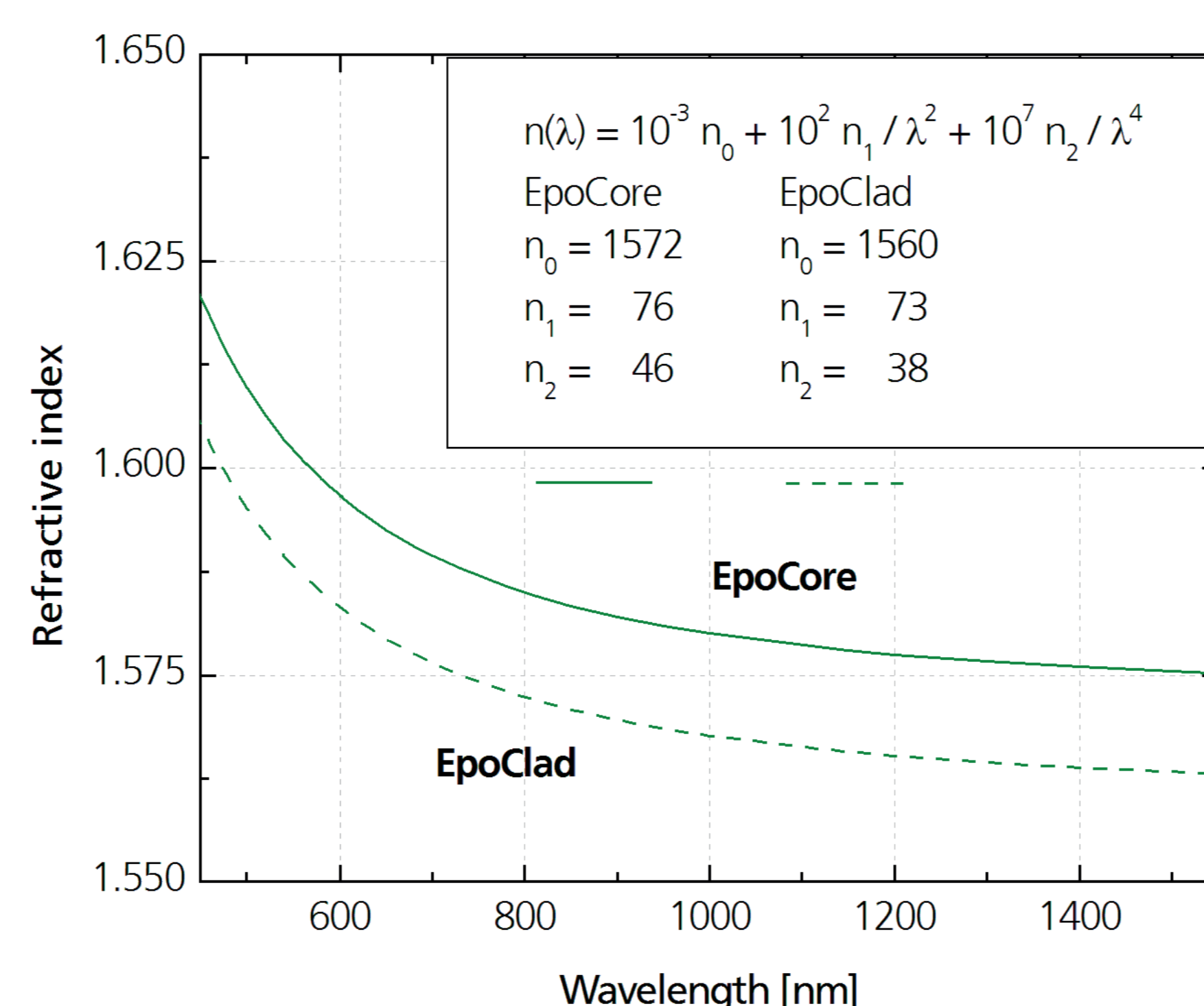
- Optical waveguides
- Biosensors (multifunctional systems)
- UV resist

Process flow

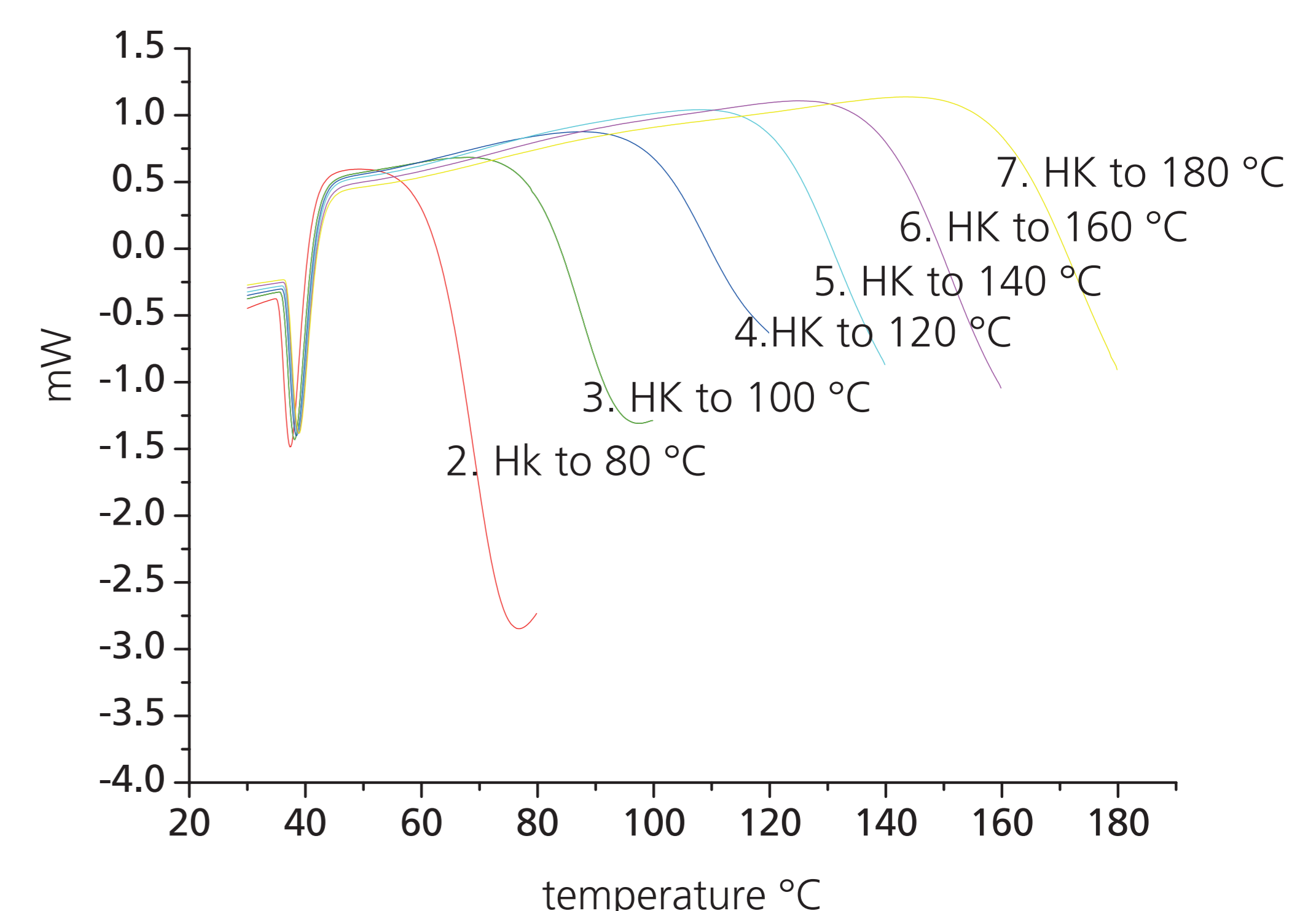


Technical data

EpoCore/ EpoClad waveguides	
Refractive index @ $\lambda = 830$ nm	EpoCore 1.58, EpoClad 1.57
Glass transition temperature	> 180 °C
Substrate	Standard FR4 (10x10 cm, 8 inch)
Lamination	Standard temperature > 185 °C, pressure 23 kp/cm ²
Standard tests	Reflow: 3 x 15 s @ T = 230 °C; TCT: 240 x -40 °C / +120 °C
Optical loss	~0.2 dB/cm @ $\lambda = 850$ nm



Refractive index tuning by copolymerisation



EpoCore, DSC-curves after repeated measurements with different final temperatures