**Fig. 1** Schematic cross-section of the 1D PC (rugate filter) with high and low refractive layers without (a) and with ALD coating (b)
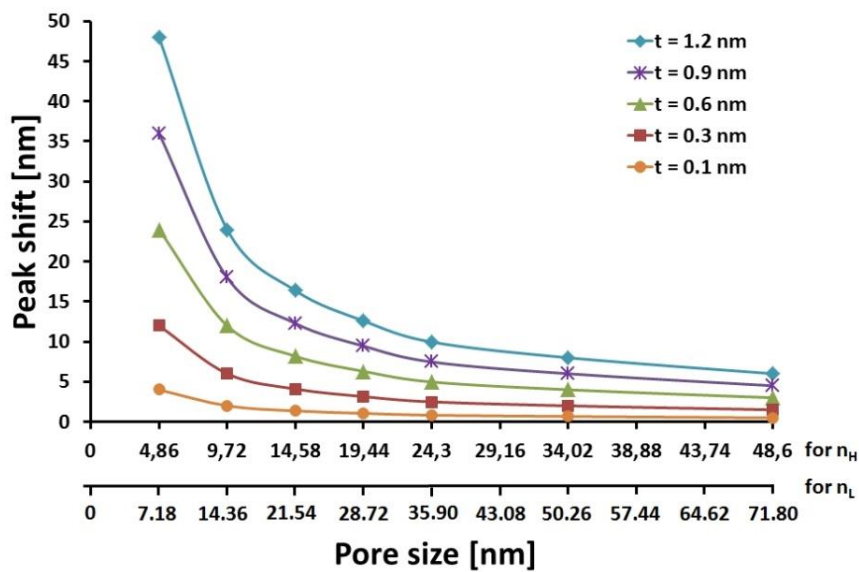


**Fig. 2** Simulated peak shift as a function of the pore size for $n_H$ and $n_L$ and coating thickness on the pore wall
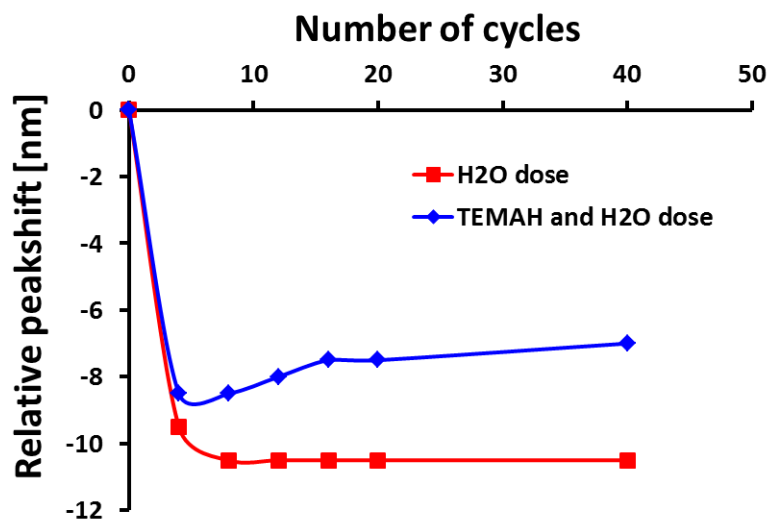


**Fig. 3** Measured relative peak shift of the 1D PC with TEMAH and $H_2O$ and only $H_2O$ dose sequences