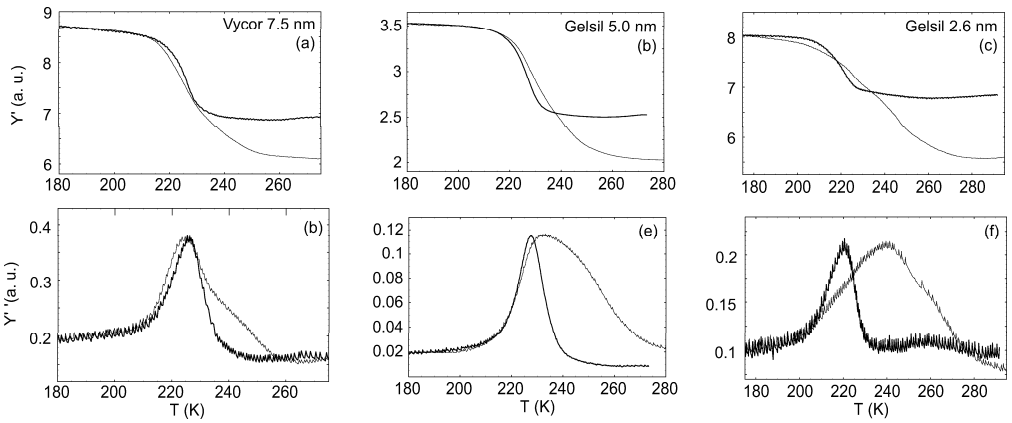

FIG. 2: Comparison of DMA data: thin lines are data for untreated inner surface, thick lines are new data for silanated pore surfaces. Data are presented in arbitrary units since in a DMA experiment contact losses do not allow to quantitatively compare Y' and Y'' signals of two different samples.

1.) For untreated surface, we had to consider pore center relaxation times about two orders of magnitude higher [23] than obtained from the present analysis of silanated pores. Such an enhancement of mobility of molecules due to the absence of surface blocking in silanated pores was also observed in previous studies [27, 42]. It probably reflects the fact, that the surface blocking of molecular mobility in uncoated pores slows down the dynamics of molecules also in the center of the pores.

2.) Present results and used fit parameters (Tab. II) show that the acceleration of the dynamics in silanated pores now leads to a much stronger downshift of T_g with decreasing pore size as compared with the results of uncoated pores [23]. It reflects the pure confinement effect - i.e. free of surface contributions - which leads to a downshift of T_g due to limitation of the correlated regions by the pore diameter.

Unfortunately there is no unique theory which clearly relates these finite size effects to parameters characterizing the glass transition. However in recent computer simulations [43] of supercooled polymer films confined between two separated walls of distance d it was shown that confinement leads to faster dynamics. The authors parametrized the size depen-