**Fig. S1** Correlations between polyamines and chlorophyll fluorescence parameters in leaves of the poplar clones (XQH and BS5) under N additions. A-Put: acetylated putrescine, Put: putrescine, Spm: spermine; ABS/CSo: absorption flux per CS at t=0, Chl: chlorophyll, DIo/CSo: dissipated energy flux of PSII per CS at t=0. The correlation was analyzed by using Pearson correlation coefficient (*r*, at a significance level of 0.05)