

**Figure S4. Spatial autocorrelation analysis for the three major NRY haplogroups (N1c(Tat), I2a(P37) and R1a(SRY1532)) in Belarusians.** Moran’s I indices were calculated for the three NRY haplogroups in six Belarusian sub-populations including also immediate neighbor populations - Ukraine, Poland, Lithuania, Latvia and Central Russia - to assure that the territory of Belarus is covered completely. The correlograms indicate that ‘gradient-like’ frequency patterns for N1c(Tat) and I2a(P37) haplogroups are not statistically supported due to likely small number of points and a rather small geographic area. Haplogroup R1a(SRY1532) demonstrates no pattern in its frequency distribution. Open circles in the correlograms denote non-significant values.