



Supplementary material

## Quest for optimal regression models in SARS-CoV-2 wastewater based epidemiology

Parisa Aberi<sup>1</sup>, Rezgar Arabzadeh<sup>1</sup>, Heribert Insam<sup>2</sup>, Rudolf Markt<sup>2</sup>, Markus Mayr<sup>2</sup>, Norbert Kreuzinger<sup>3</sup> and Wolfgang Rauch<sup>1\*</sup>

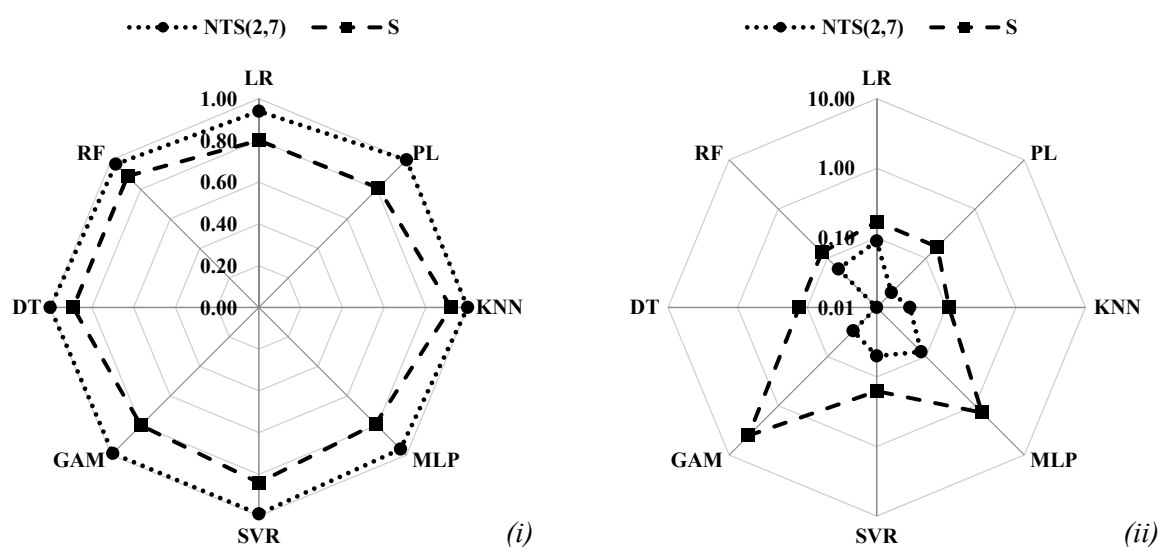


Figure S1: Model performance as spider chart – WWTP B. Left: RMSE and right: RSQ metric comparing signal (S) only with combined information of signal (S), normalisation (N) and tests taken (T).

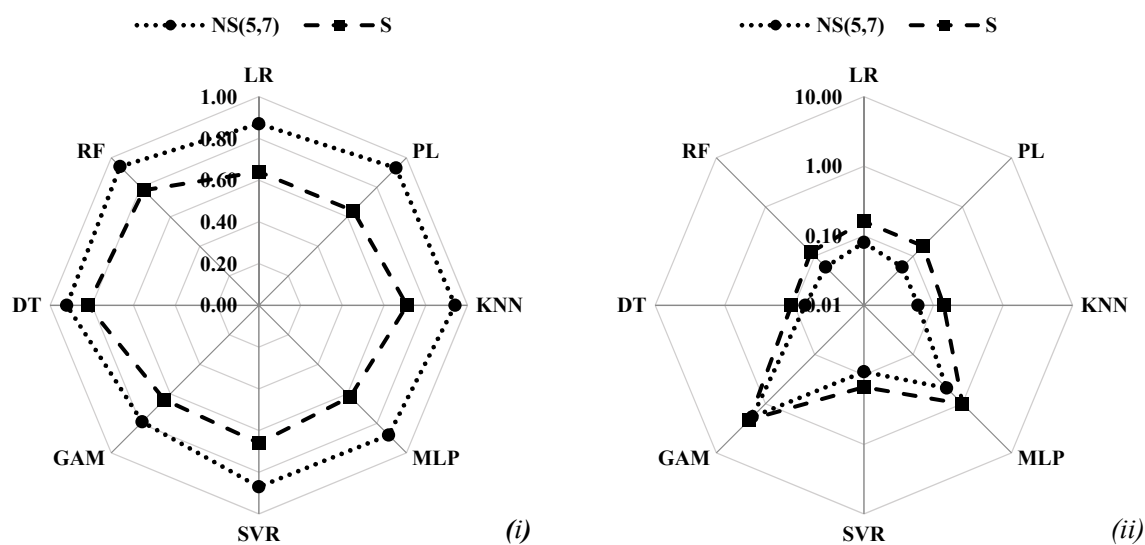


Figure S2: Model performance as spider chart – WWTP C. Left: RMSE and right: RSQ metric comparing signal (S) only with combined information of signal (S), normalisation (N) and tests taken (T).

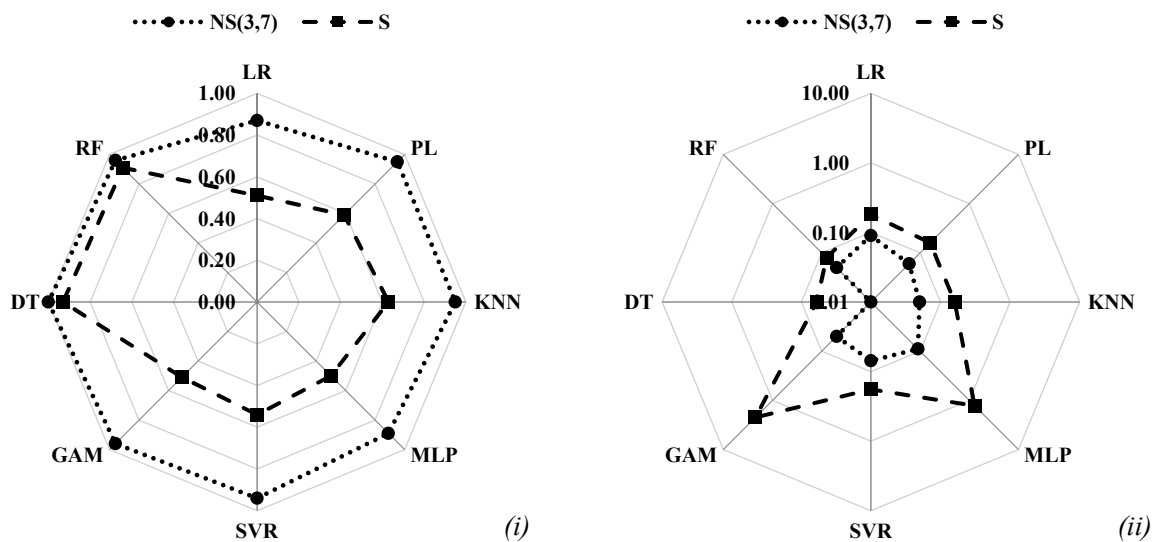


Figure S31: Model performance as spider chart – WWTP D. Left: RMSE and right: RSQ metric comparing signal (S) only with combined information of signal (S), normalisation (N) and tests taken (T).

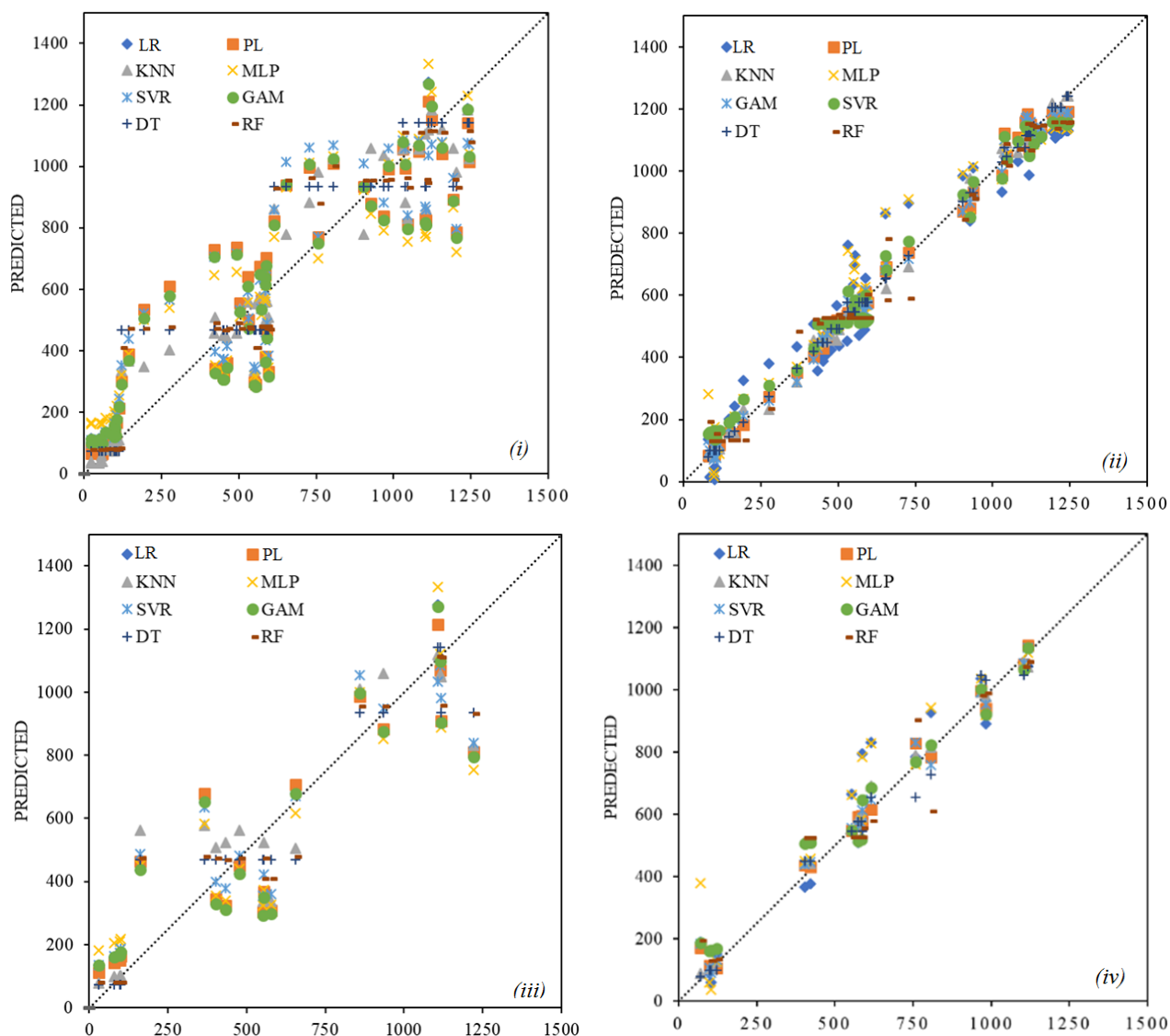


Figure S4: Visualisation of the number of active cases recorded versus model prediction in WWTP B: (i) and (ii) model predictions against recorded data for training subset under univariate and multivariate inputs, respectively, and (iii) and (iv) the same plots for the testing subset

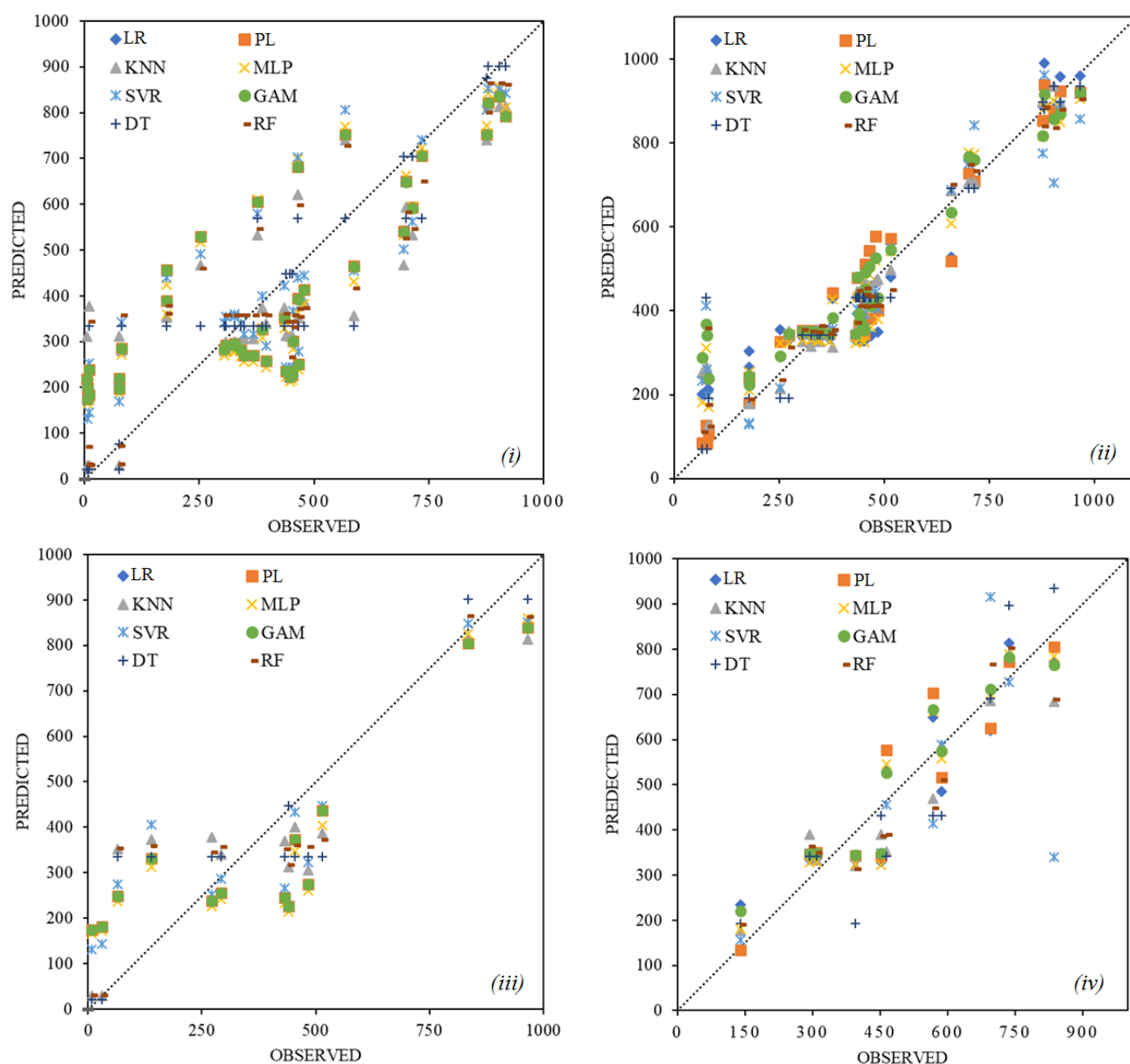


Figure S5: Visualisation of the number of active cases recorded versus model prediction in WWTP C: (i) and (ii) model predictions against recorded data for training subset under univariate and multivariate inputs, respectively, and (iii) and (iv) the same plots for the testing subset

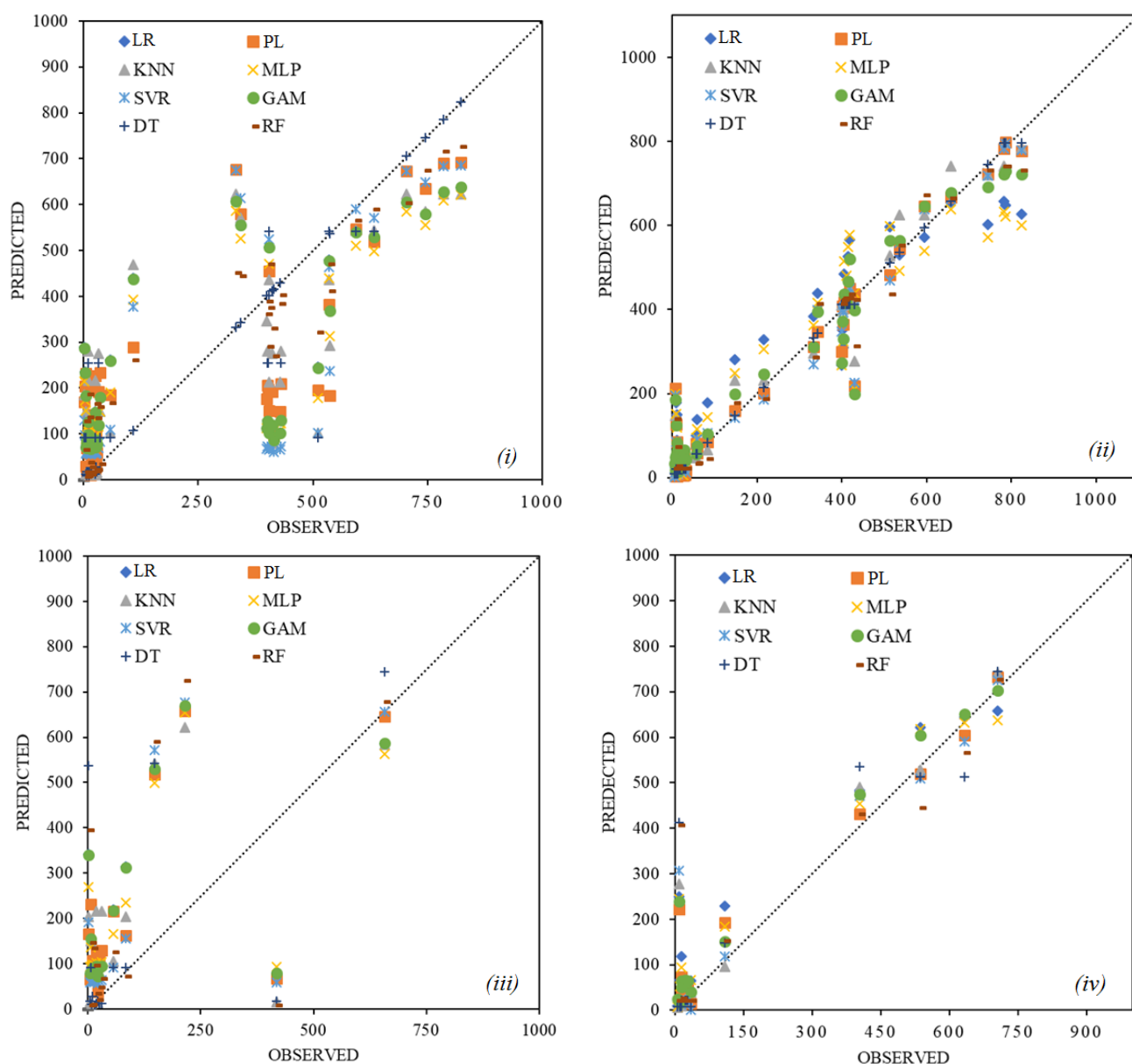


Figure S6: Visualisation of the number of active cases recorded versus model prediction in WWTP D: (i) and (ii) model predictions against recorded data for training subset under univariate and multivariate inputs, respectively, and (iii) and (iv) the same plots for the testing subset

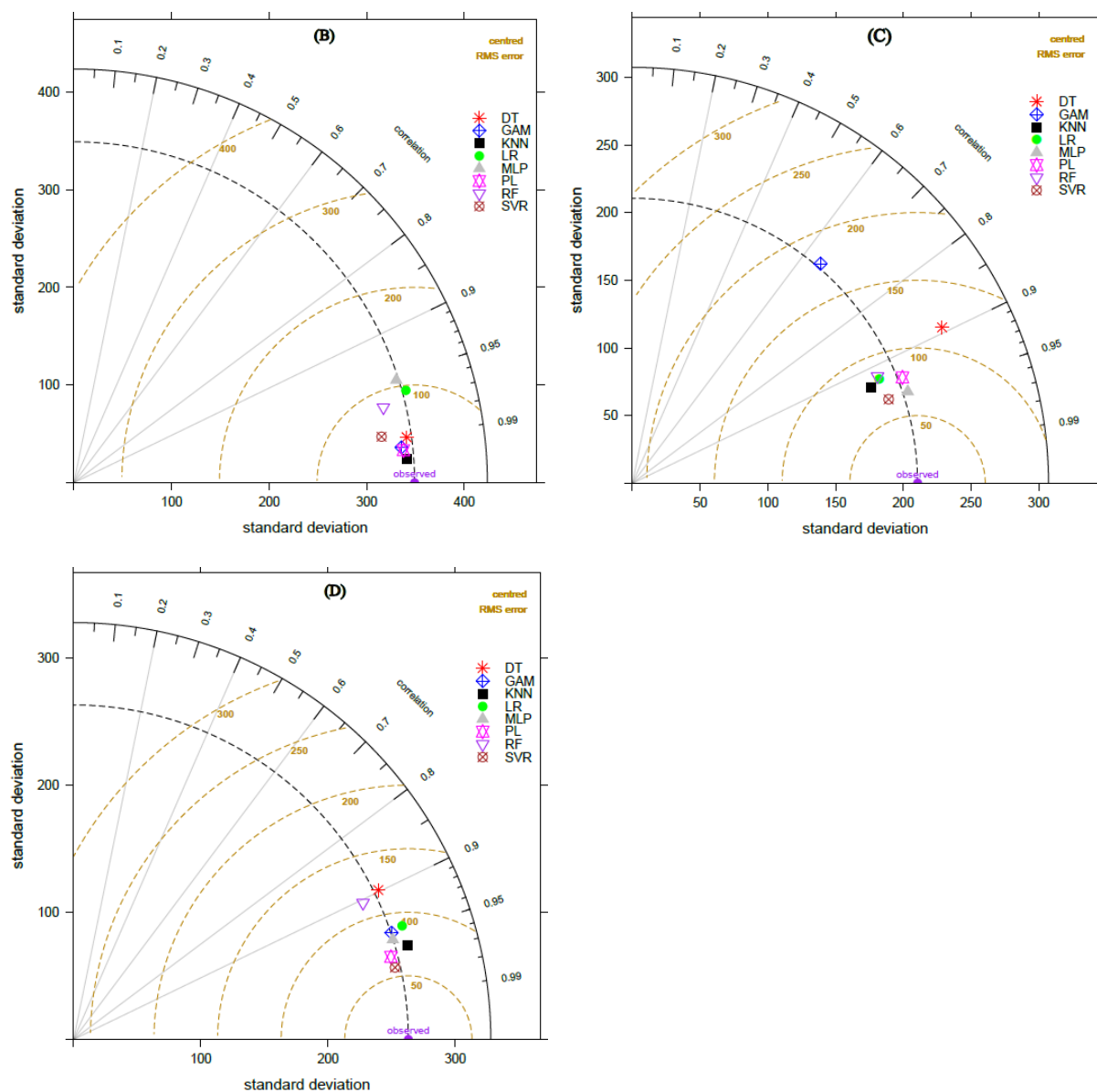


Figure S7: Taylor diagram, displaying statistical comparison of the eight model predictions against the actual number of recorded active cases - WWTP B,C and D