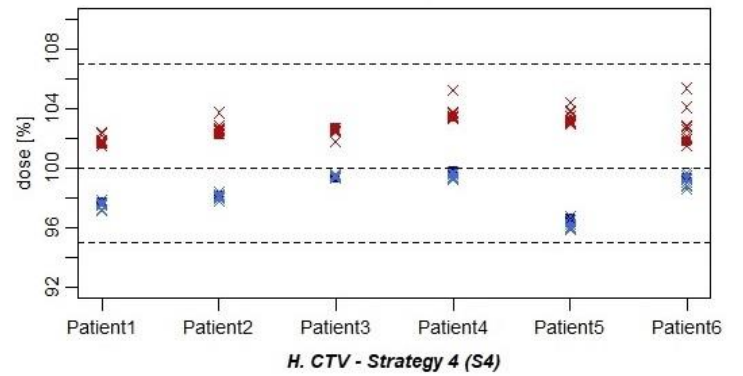
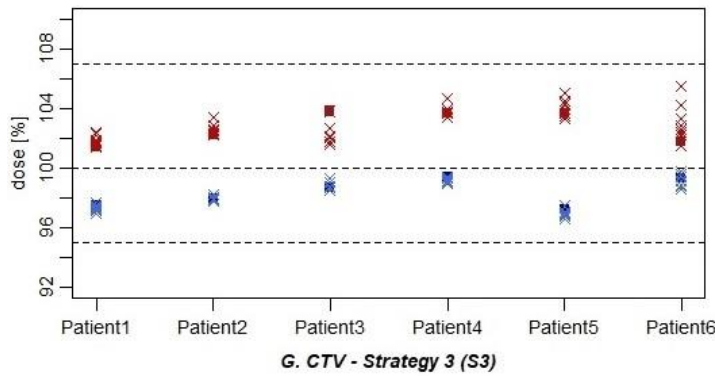
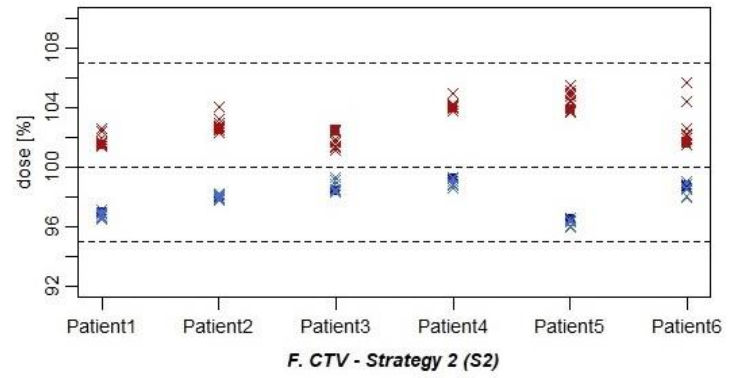
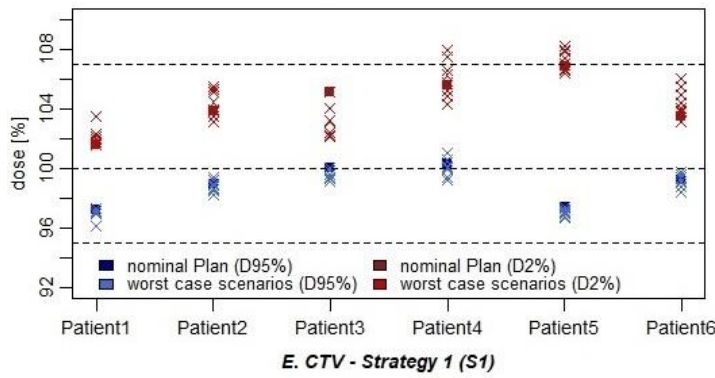
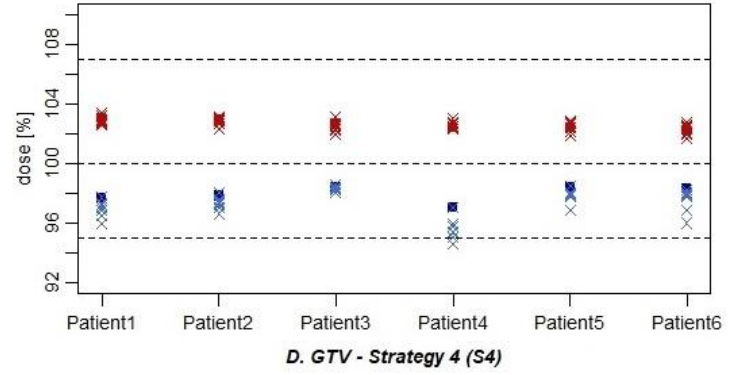
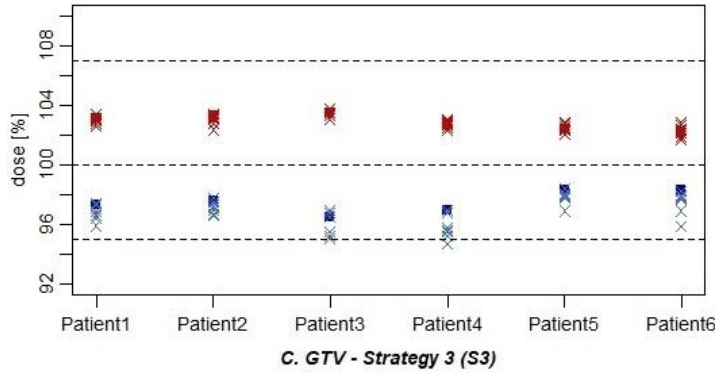
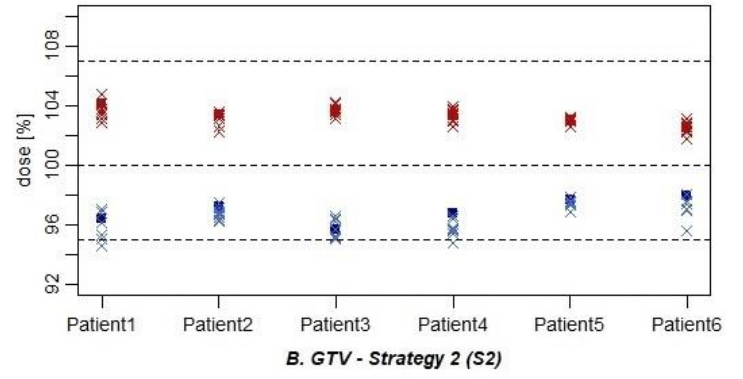
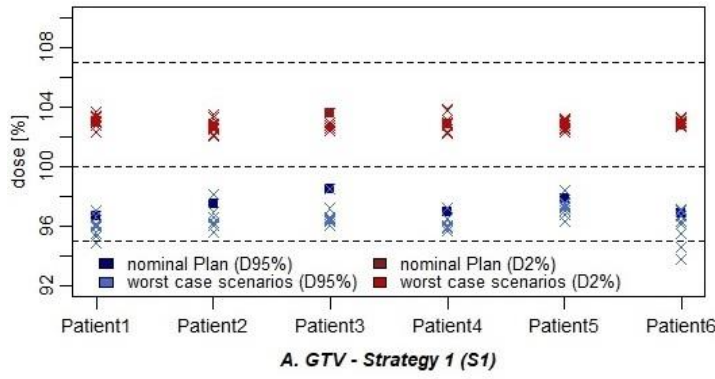




Additional file 5: The robustness analysis of the dose coverage ($D_{95\%}$ and $D_{2\%}$). In this figure the nominal value (square) with the values of nine possible scenarios (cross) for the GTV (A-D) and the CTV (E-H; $D_{95\%}$:CTV, $D_{2\%}$:CTV_{eval}) are shown. It has to be mentioned, that the robust optimization algorithm is influenced by the choice of each optimization objective and their weight. (Abbreviations: $D_{2\%}$: near dose maximum, dose received by 2% of the volume; $D_{95\%}$: dose received by 95% of the volume).