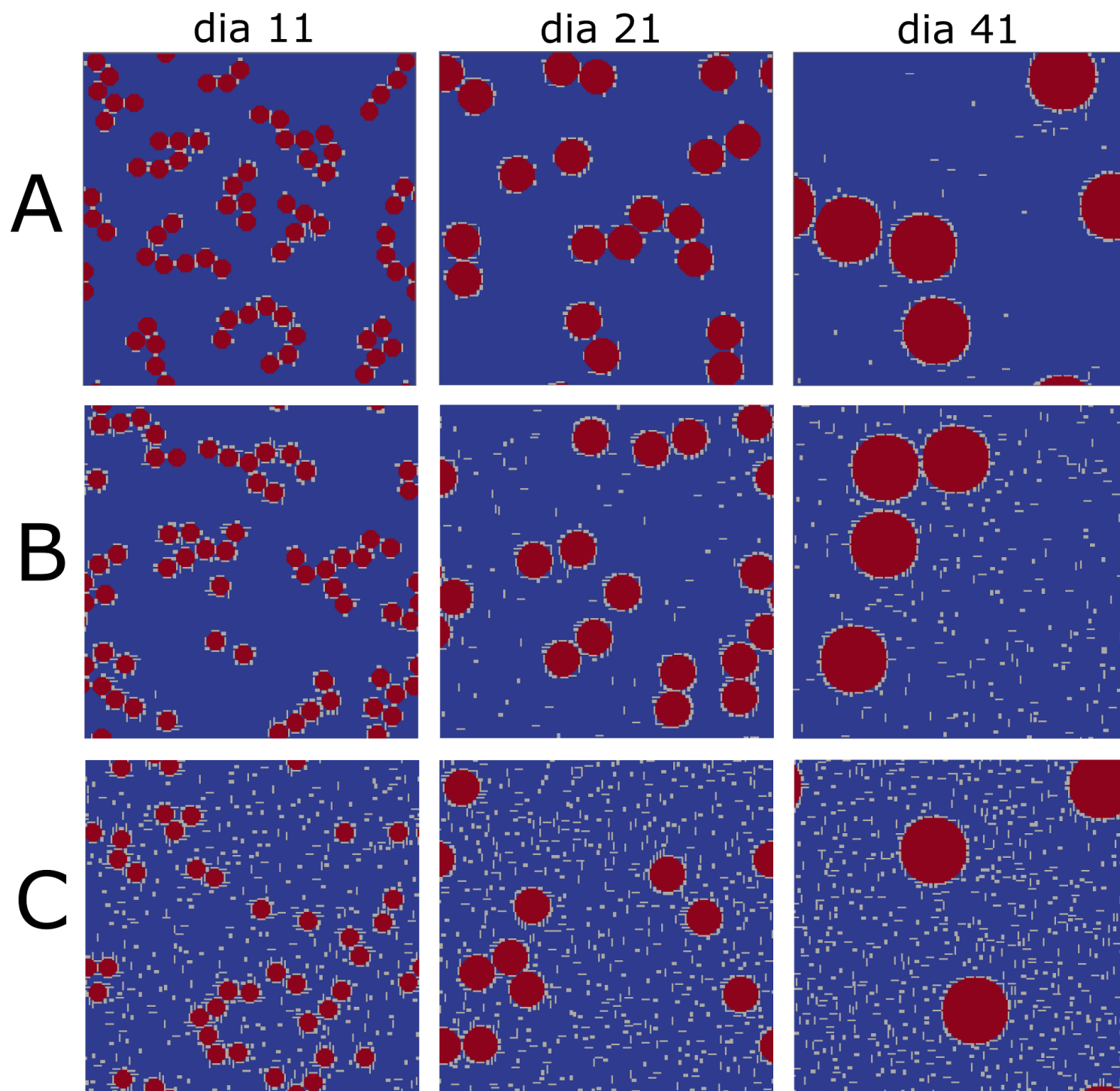
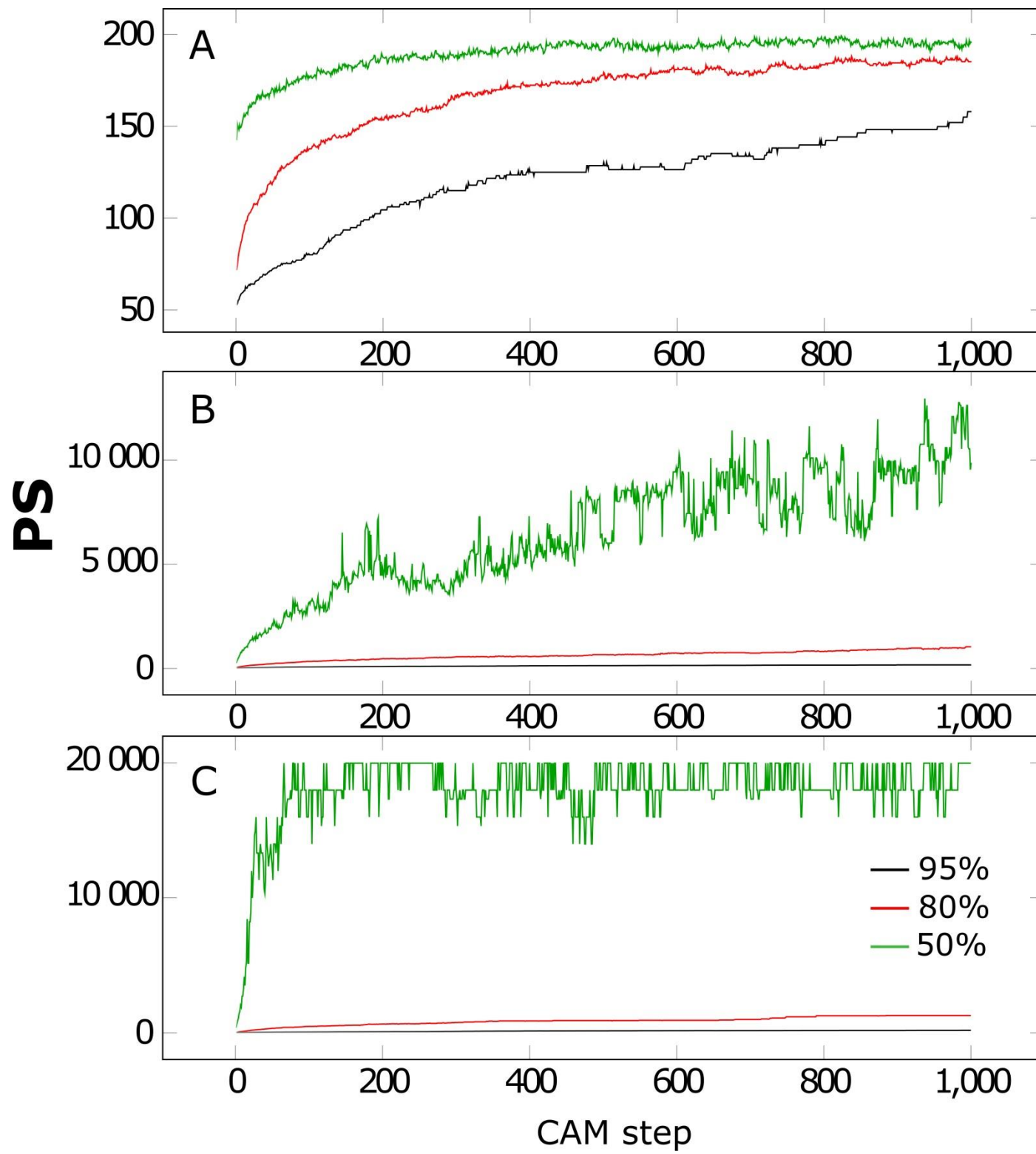


Supplementary Material



Supplementary Figure S1: Exemplary configuration after 1000 steps for small (diameter: 11), medium (diameter: 21) and large (diameter: 41) Qz (red MFMs). The initial conditions were set to an area fraction of 20% and a composition of 6% Gt, 6% Il_{pos} and 88% Qz (A), 12% Gt, 12% Il_{pos} and 76% Qz (B) as well as 24% Gt, 24% Il_{pos} and 52% Qz (C). This figure supplements Fig. 3 of the original article and compares different compositions of minerals according to scenario 2.



Supplementary Figure S2: Average particle sizes (PS) for CBUs plotted as function of time for a porosity of 50% (green), 80% (red) and 95% (black) at compositions of 3% Gt, 3% I_{neg} and 94% Qz (A), 12% Gt, 12% I_{neg} and 76% Qz (B) as well as 24% Gt, 24% I_{neg} and 52% Qz (C). This figure extends Fig. 4 (6% Gt, 6% I_{neg} 88% Qz) of the original article for other compositions: Note that in these scenarios Illite is negatively charged and thus is also attracted by Gt. This leads to large PS values for growing amounts of small particles (subfigures B and C, compared to A and Fig. 4).