



**Figure S2. Van Krevelen diagrams of CHONS molecular compositions.** (a) inflow DOC pool, (b) residual DOC pool in control flume without bedforms, (c) residual DOC pool in flume with highest bedforms (10cm). Colours indicate elemental composition, symbol type indicates presence of aromatic structures (aromaticity index > 0.5), values in parentheses indicate number of compounds identified.