Figure 1: **Principal component analysis (PCA) of dissolved organic matter (DOM) composition, included in submitted version of the manuscript.** The first four axes (PCA axis 1 & 2: panel a., PCA axis 3 & 4: panel b.) of the PCA explain 73% of the variance. Only those DOM composition variables are shown, which can be interpreted with high confidence Borcard2011. $C1 - C4$: Fluorescence components 1 to 4 based on parallel factor analysis (see also Table **??**); FI: fluorescence index; FreshIndex: freshness index; $E_2 : E_3$: Ratio of absorbance at 250 nm to absorbance at 365 nm; $S_{275-295}$, $S_{350-400}$ & S_R: Slope of absorbance at 275-285 nm, 350-400 nm and the ratio (R) of these two slopes; $SUVA_{HS}$ & $SUVA_{bulk}$: absorbance at 254 nm, normalised by dissolved organic carbon concentration, for humic substances (HS) and all DOM fractions, respectively; $C : N_{HS}$ & $C : N_{bulk}$: molar carbon to nitrogen ratio for HS and all DOM fractions, respectively; HS_C & HS_N, $HMWS_C$ & $HMWS_N$ or $LMWS_C$: carbon (C) and nitrogen (N) in the humic substance (HS), high-molecular weight substance (HMWS) or low-molecular weight substance fraction (LMWS) based on size-exclusion chromatography. No values for $LMWS_N$ exist, because N in LMWS is indistinguishable from N in nitrate. DK = Denmark, UY = Uruguay, extensive = extensive farming, intensive = intensive farming.
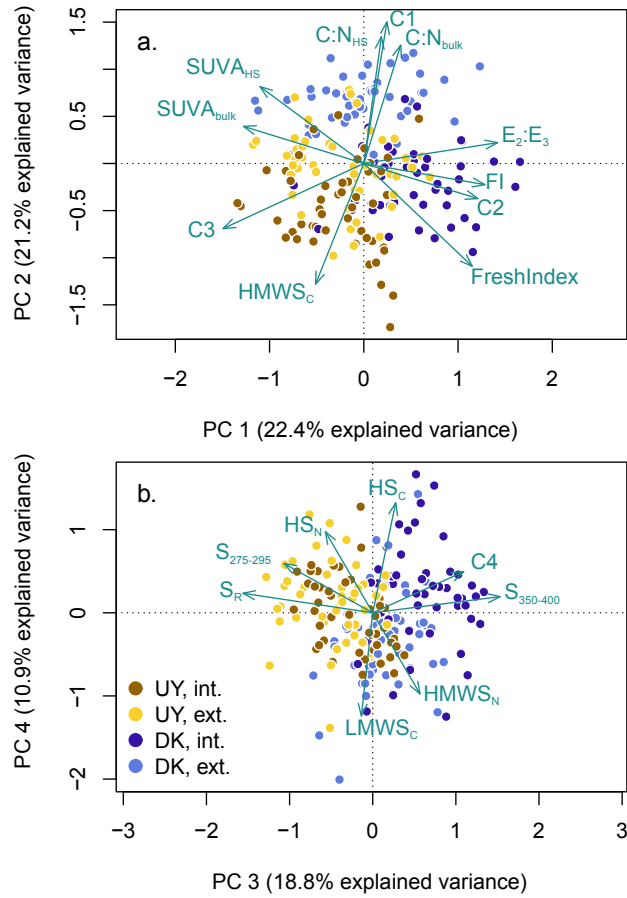
Figure 2: **Principal component analysis (PCA) of dissolved organic matter (DOM) composition, with revised data transformations (see reply to Referee comment 1, item 2).** The details of the figure are explained in the figure caption of Figure 1.