



Figure S3. $^{33}\text{P}_i$ recoveries calculated with consideration of estimated $^{33}\text{P}_i$ losses due to sorption indicate that $^{33}\text{P}_i$ recoveries from the extractable soil pool underestimate the mineralization of substrate, shown for (A) SOP, (B) DNA and (C) RNA treatments. Calculations were performed as follows: The change of extractable soil P_i concentration over time (corrected for P_i sorption estimated from mean of extractable soil P_i recoveries at 0 h and autoclaved abiotic control at 10 h, *i.e.* arable = 51.0% (\pm 1.9% S.D.) and pasture = 66.9% (\pm 5.9% S.D.)) was added to the respective extractable soil P_0 amounts, to approximately correct extractable soil P_0 concentrations for mineralization over time. Assuming for simplicity that the specific activity of extractable soil P_0 would remain unchanged without mineralization processes*, multiplication of these calculated P_0 concentrations with the specific activity of extractable soil P_0 at time 0 h provides an estimate of the activity that soil $^{33}\text{P}_0$ would hypothetically have without mineralization taking place. Subtraction of the extracted soil $^{33}\text{P}_0$ activities from this estimated mineralization-corrected $^{33}\text{P}_0$ activities gives an estimate of the ^{33}P activity being subject to mineralization processes (“mineralization calculated”). All values are plotted as percentages of ^{33}P recovery (mean of triplicates \pm S.E.). For TA and PL additions this calculation was not possible. The added substrates were not extractable in their intact form, and therefore a discrepancy between activities and measured concentrations arises that cannot be corrected for with the available data. Despite large errors associated with this calculation, it shows that substrate mineralization is generally underestimated due to sorption of mineralized P_i . *However, desorption of unlabelled P_0 could theoretically decrease specific activity of extractable soil P_0 , further complicating the estimate. Soil A = arable soil; Soil P = pasture soil. S.D. = standard deviation. S.E. = standard error.