

Chlorine dioxide degradation issues on metal and plastic water pipes tested in parallel in a semi-closed system

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Supporting Information

Electrochemical Impedance Measurements

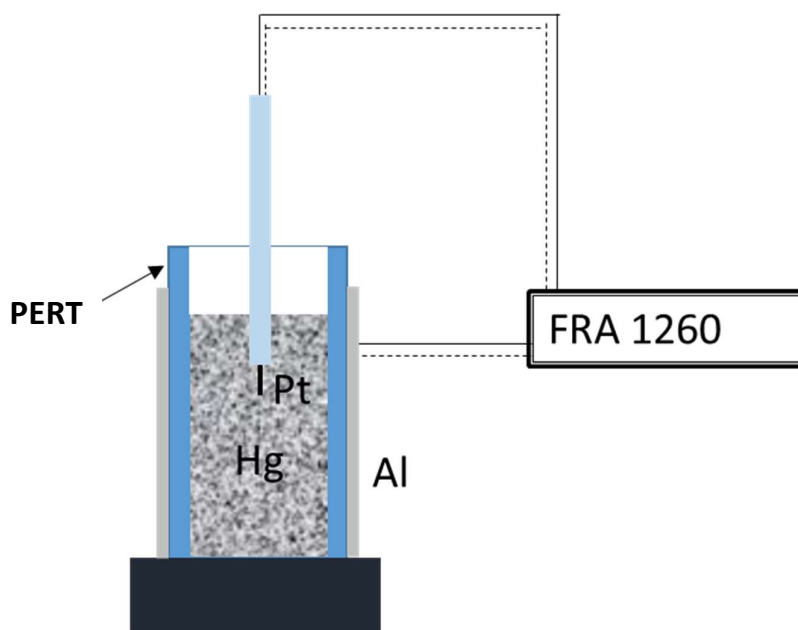


Figure S1: Experimental setup for 4 wires Impedance Measurements on PERT with Al shield.

EDS Analyses

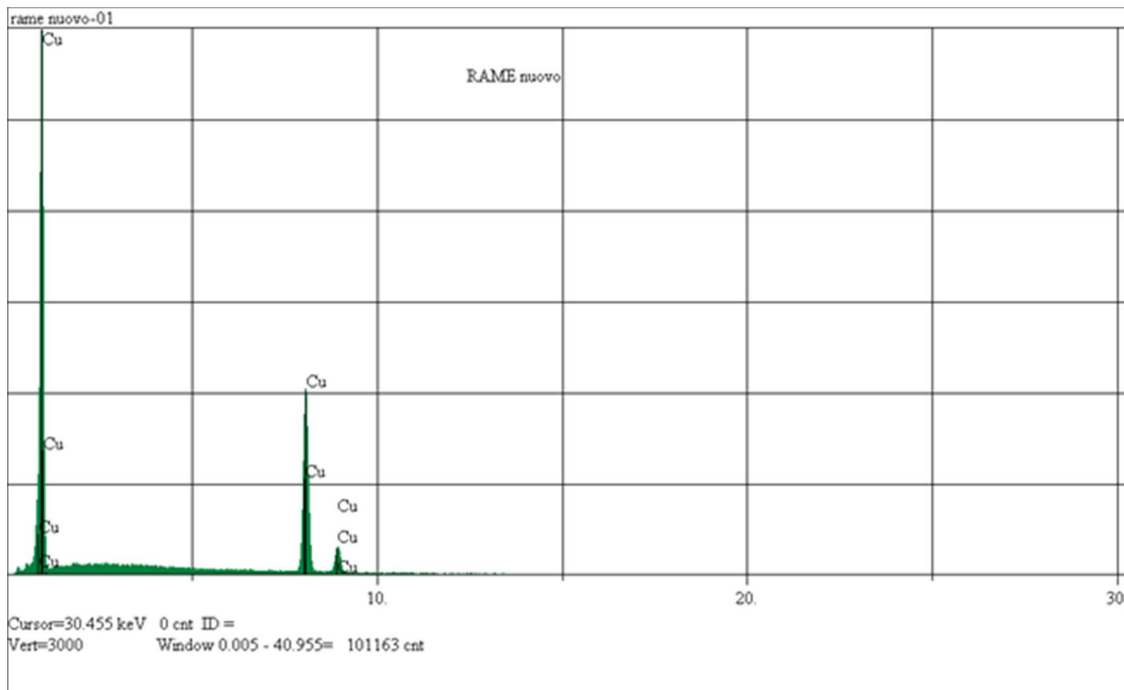


Figure S2a: Copper – New pipe

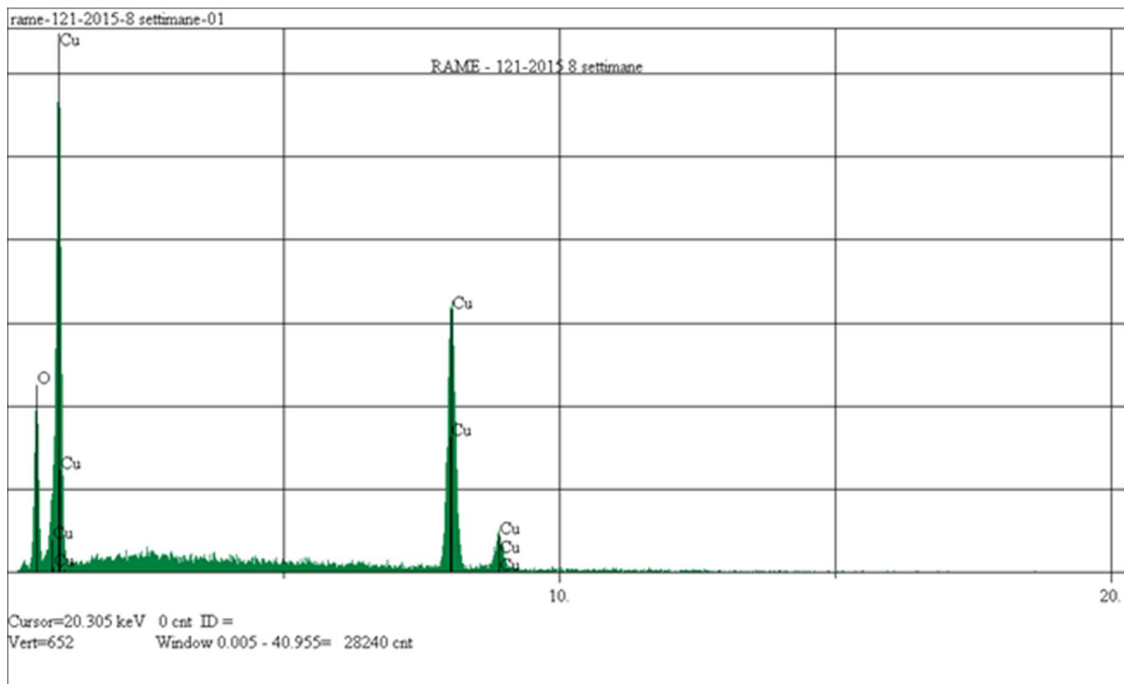


Figure S2b: Copper pipe Aged 8 weeks

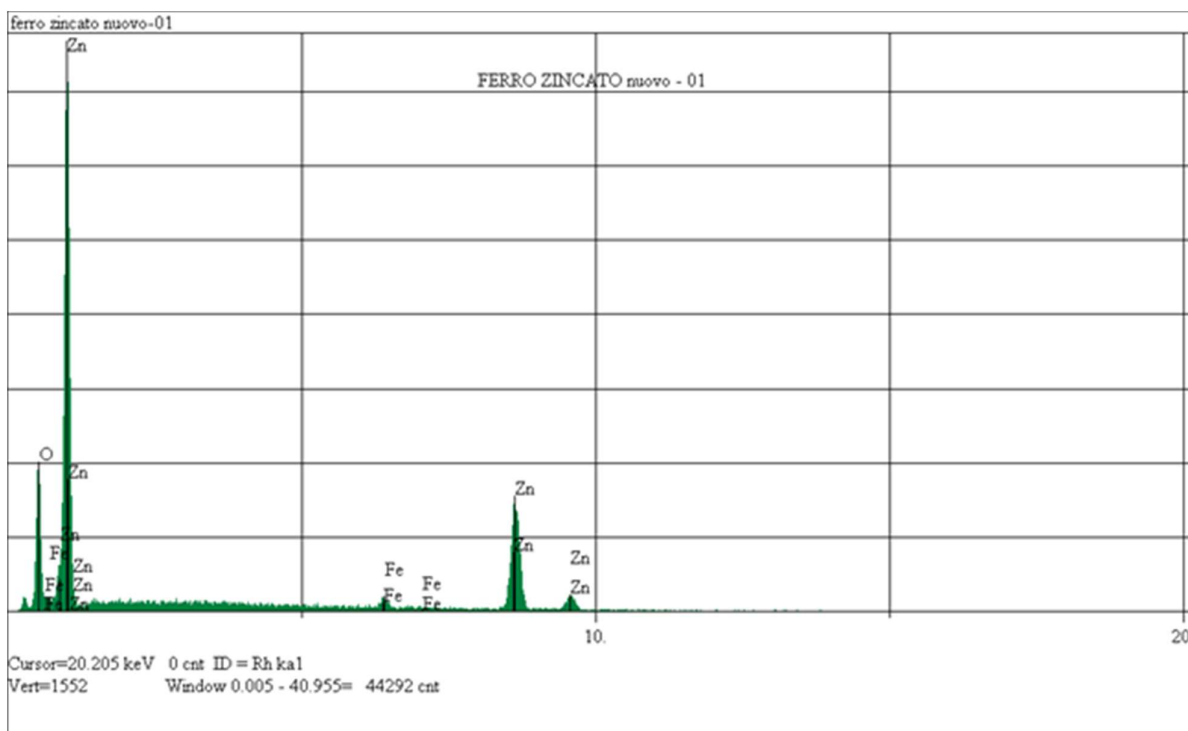


Figure S3a: Galvanized Steel – New pipe

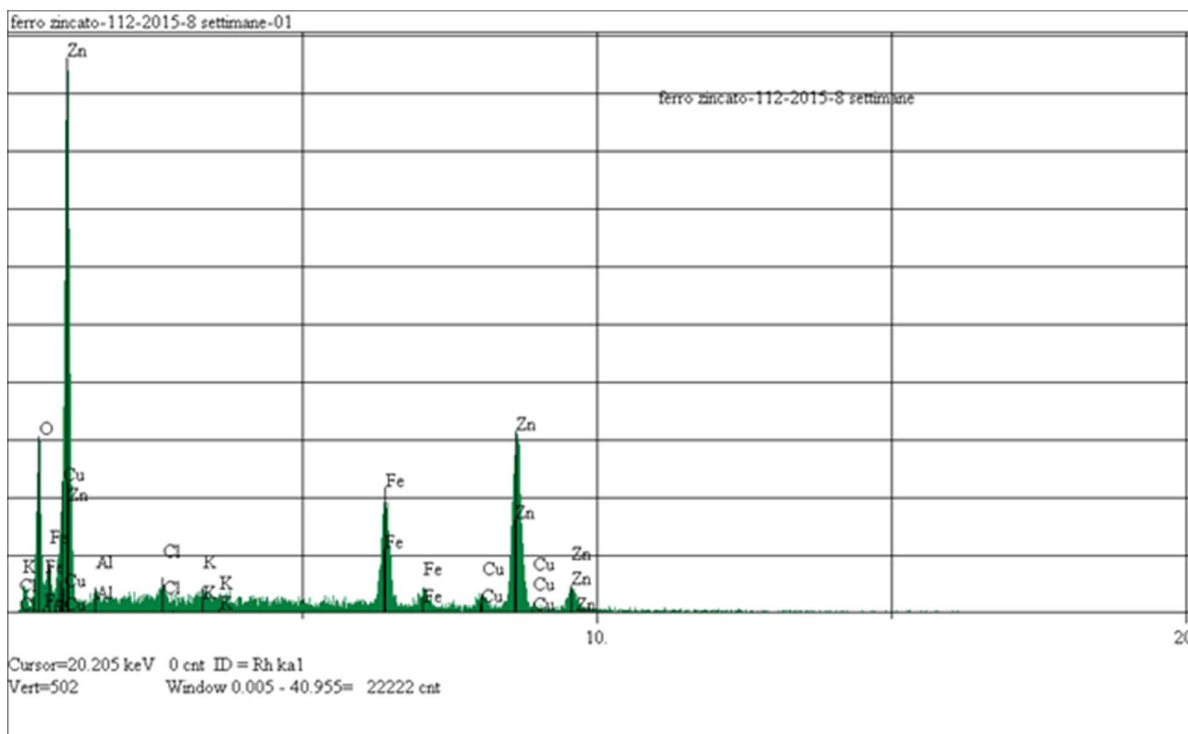


Figure S3b: Galvanized Steel pipe aged 8 weeks

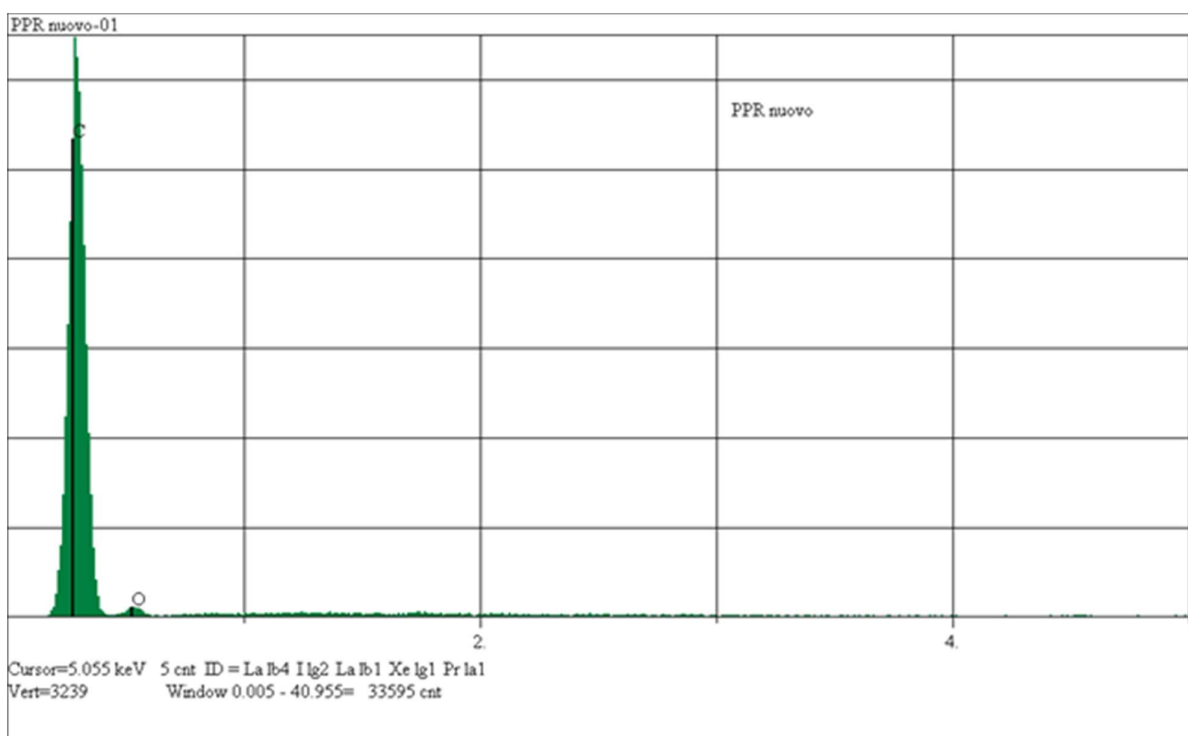


Figure 4Sa: PPR – New pipe

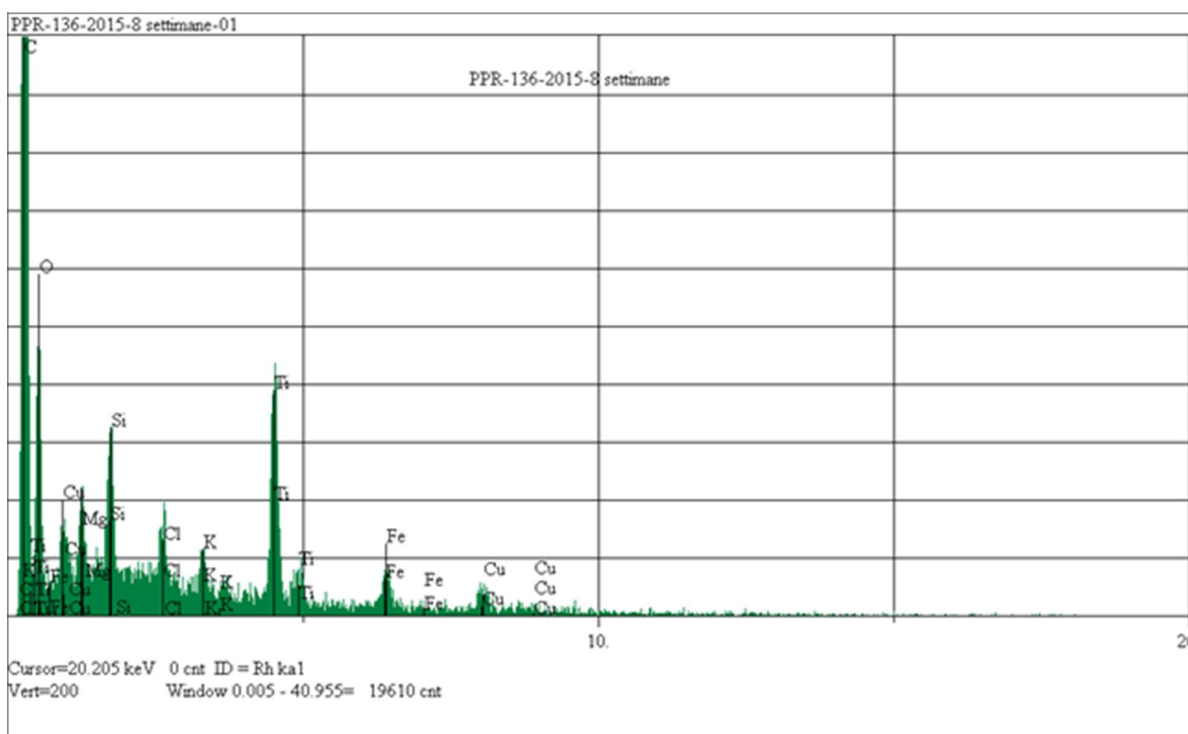


Figure 4Sb: PPR pipe aged 8 weeks

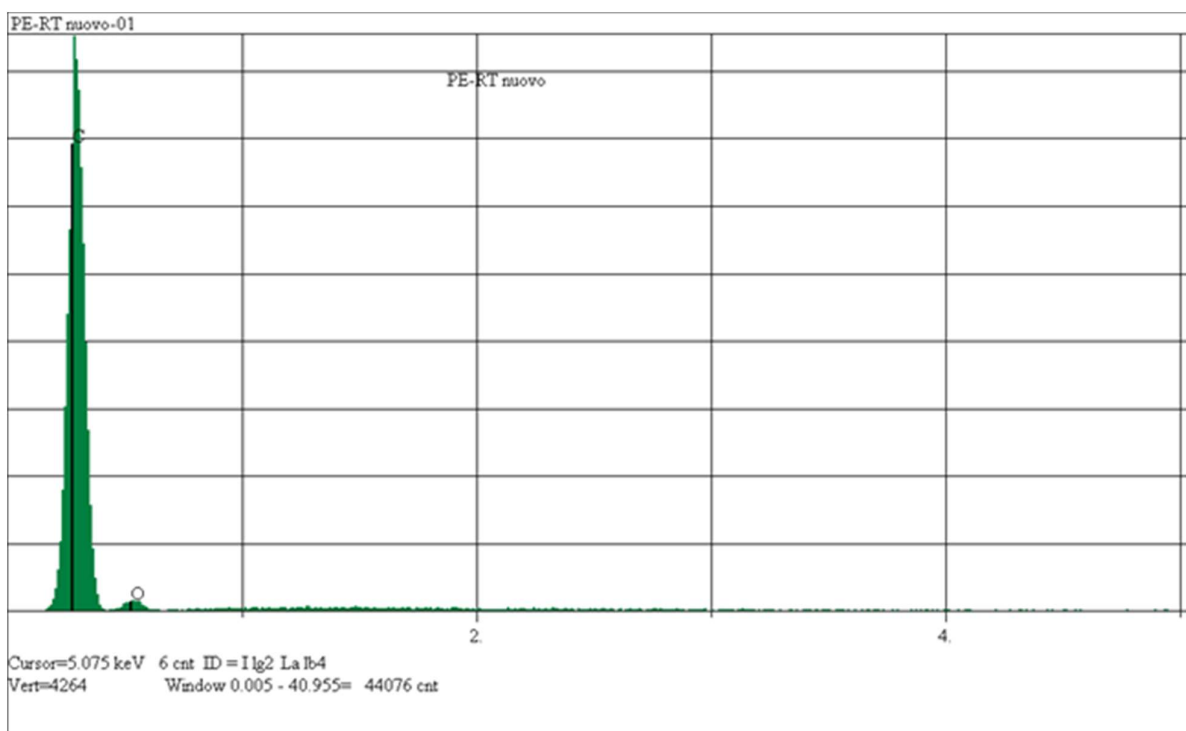


Figure 5Sa: PERT – New pipe (multilayer)

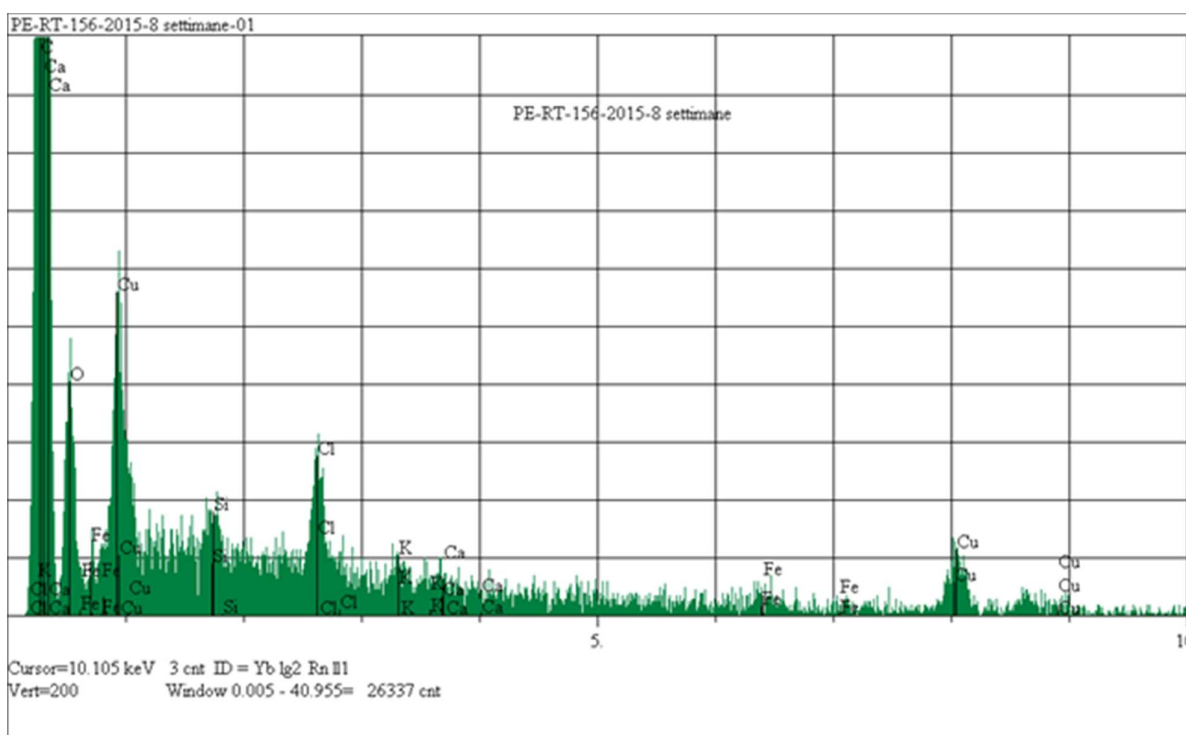


Figure 5Sb: PERT multilayer pipe aged 8 weeks

FT-IR analyses (bulk)

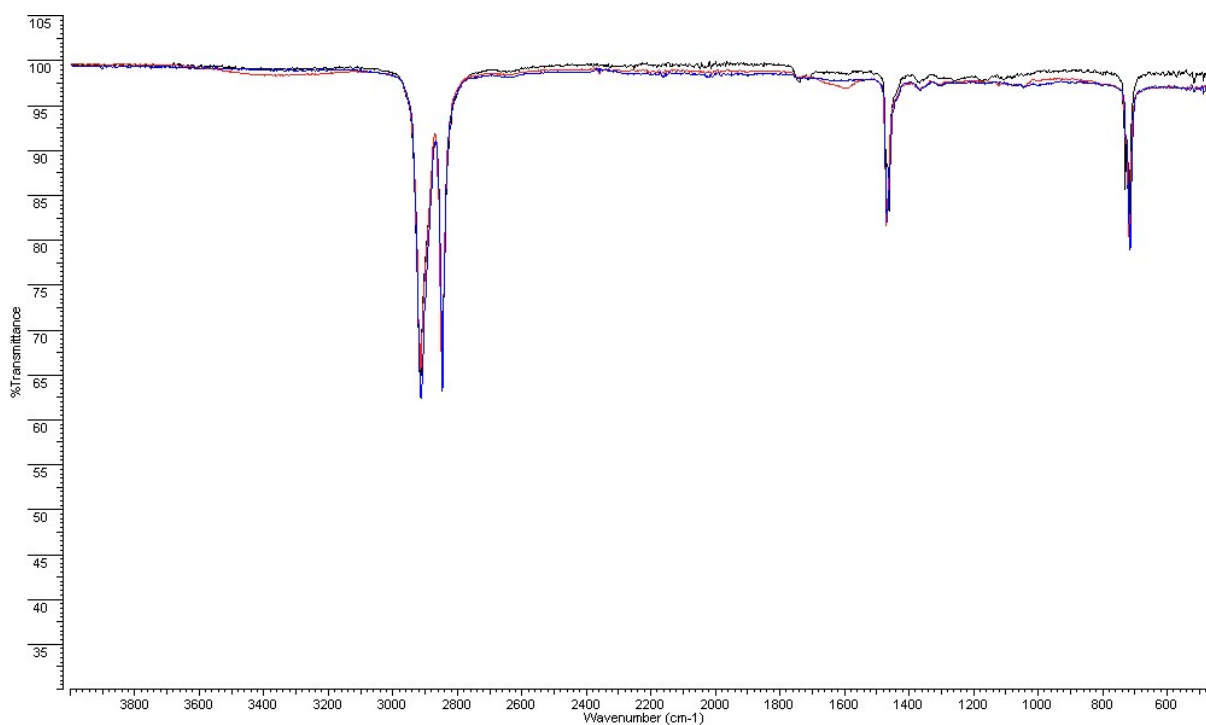


Figure S6: FT-IR of PERT bulk: new (black), 4 weeks (red), 8 weeks (blue)

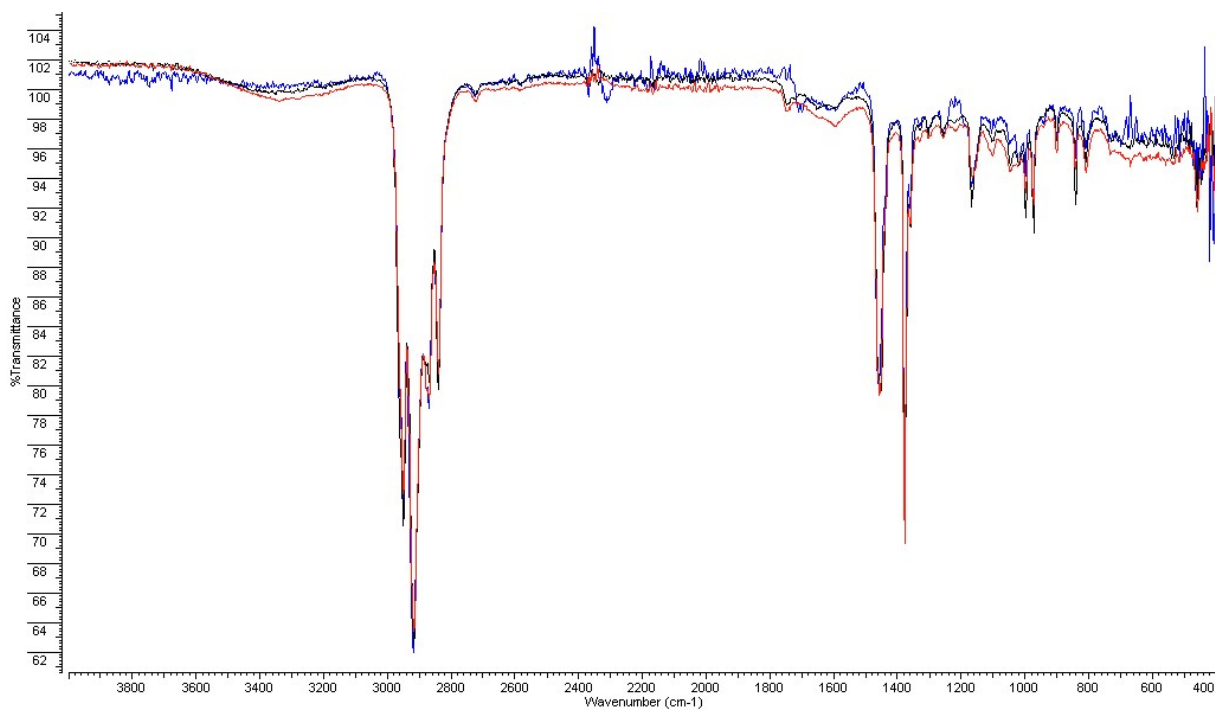


Figure S7: FT-IR of PPR bulk: new (black), 4 weeks (red), 8 weeks (blue)

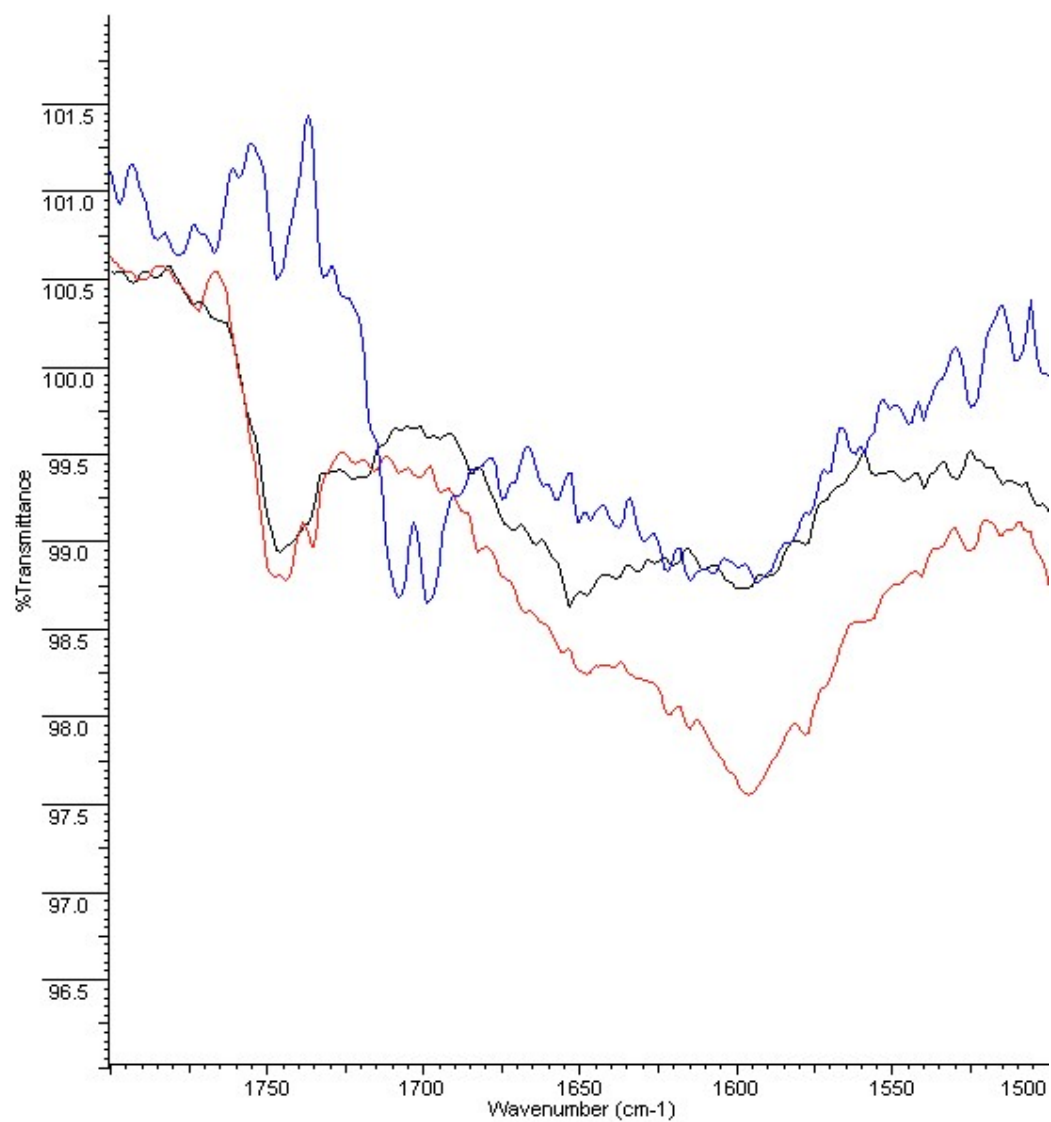


Figure S8: FT-IR spectra of PPR bulk: new (black), 4 weeks (red), 8 weeks (blue) – Magnification of 1800-1500 cm⁻¹ region

DSC Analyses

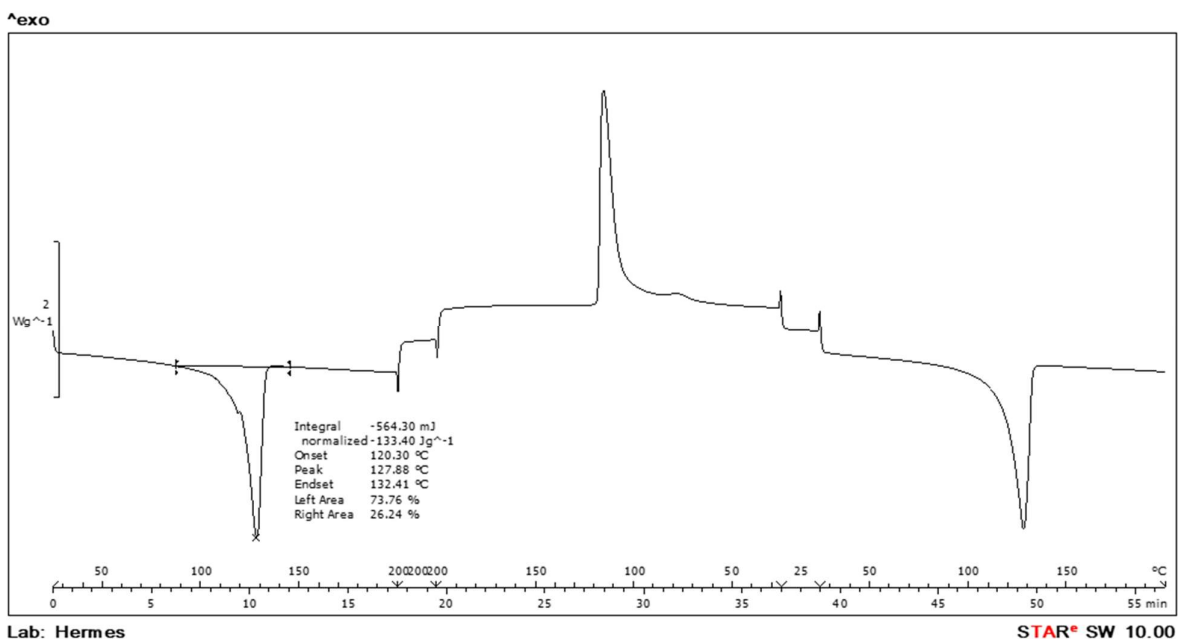


Figure S9: DSC analyses (First heating – cooling – Second heating) on PERT new pipe

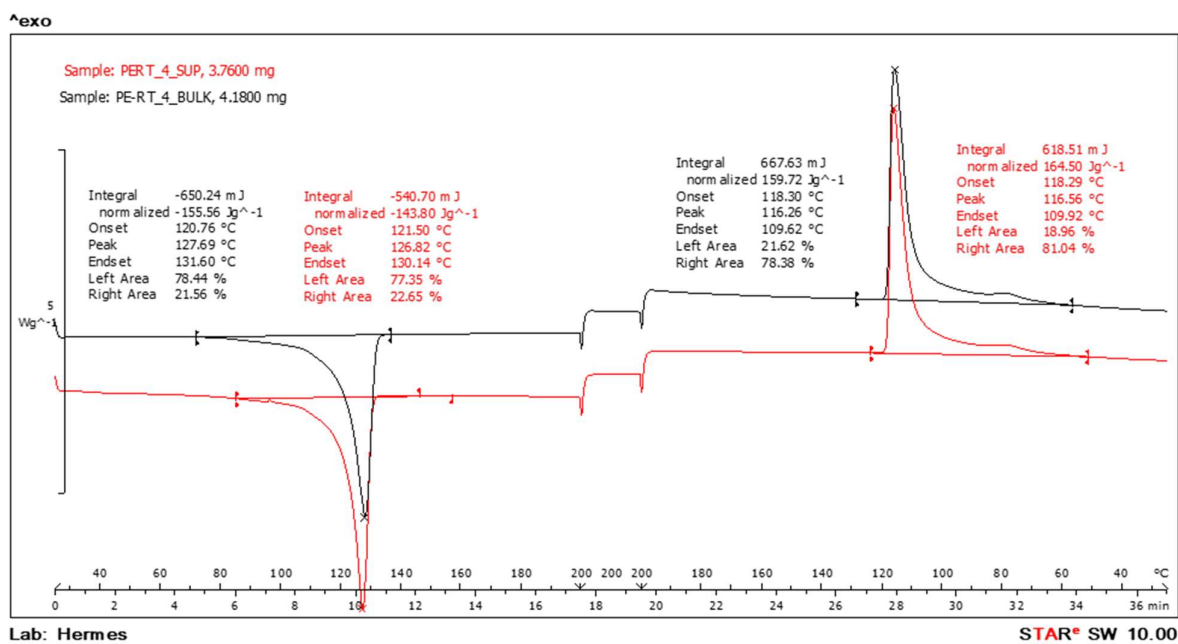


Figure S10: DSC analyses (First heating – cooling) on PERT pipe aged 4 weeks: bulk (black), surface (red)

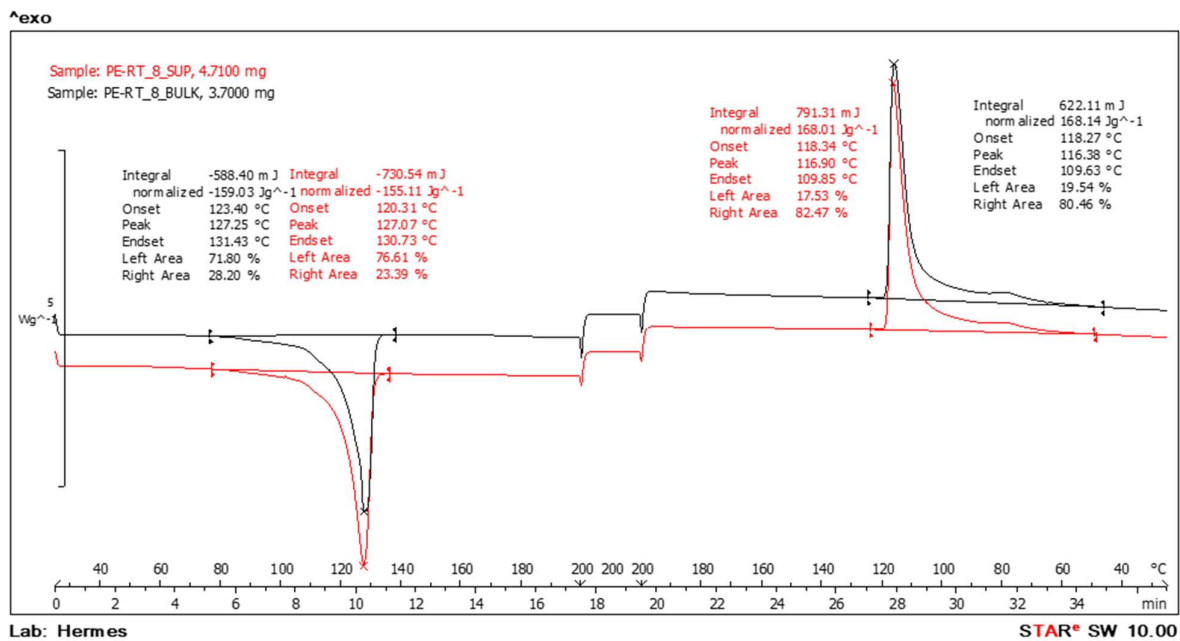


Figure S11: DSC analyses (First heating – cooling) on PERT pipe aged 8 weeks: bulk (black), surface (red)

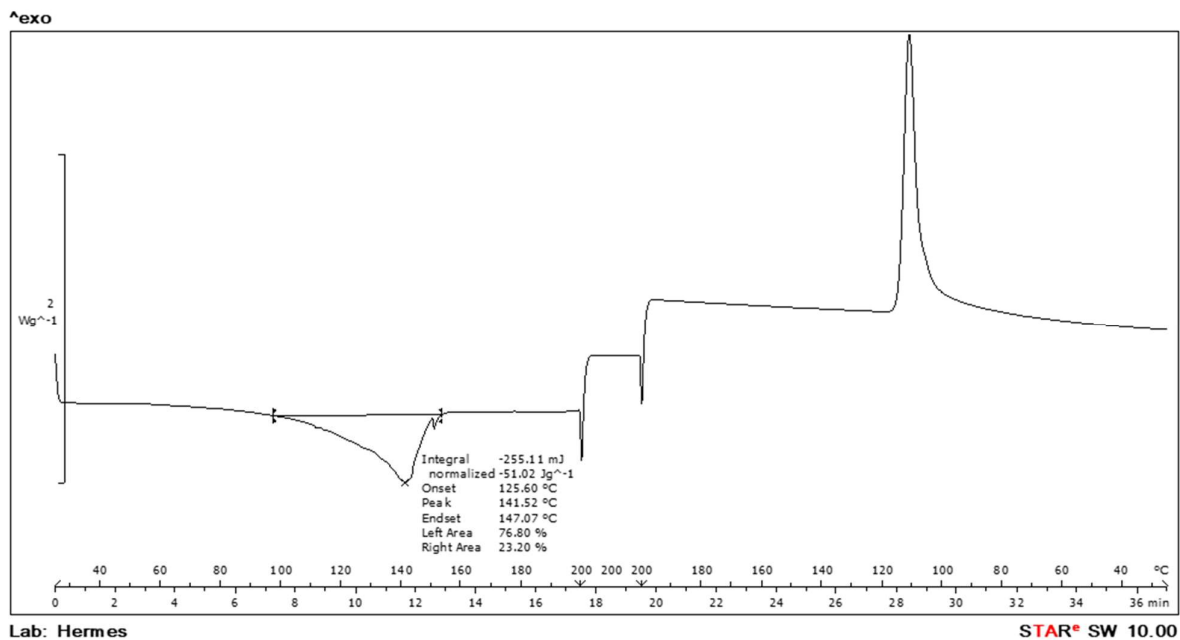


Figure S12: DSC analyses (First heating – cooling) on PPR new pipe

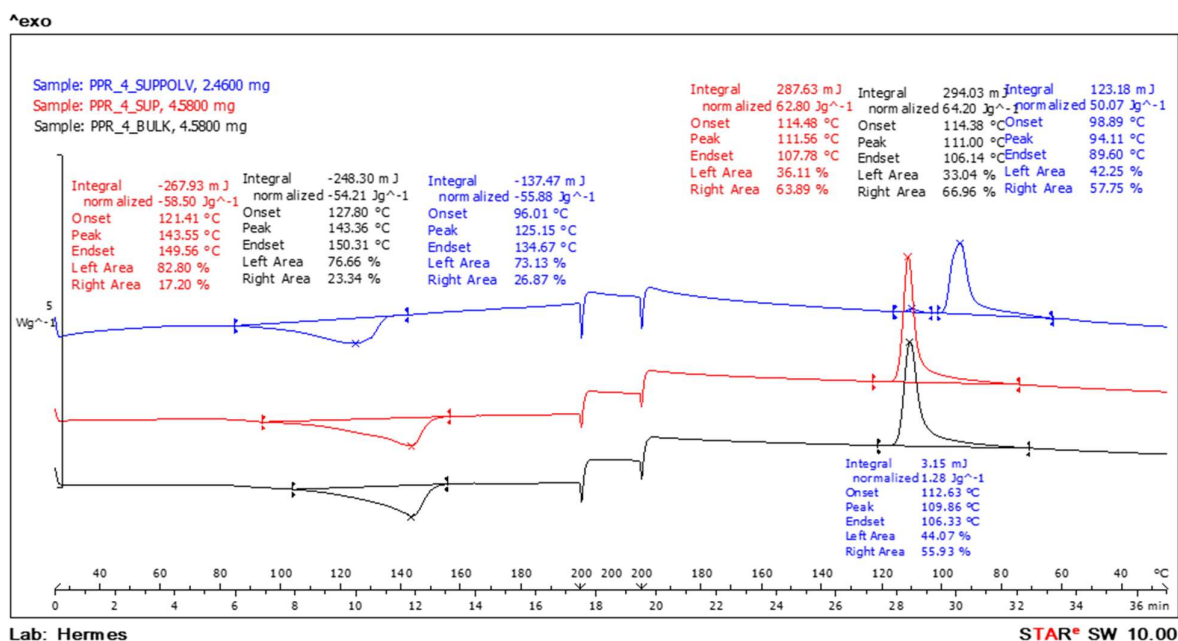


Figure S13: DSC analyses (First heating – cooling) on PPR pipe aged 4 weeks: bulk (black), surface (red), surface powder (blue)

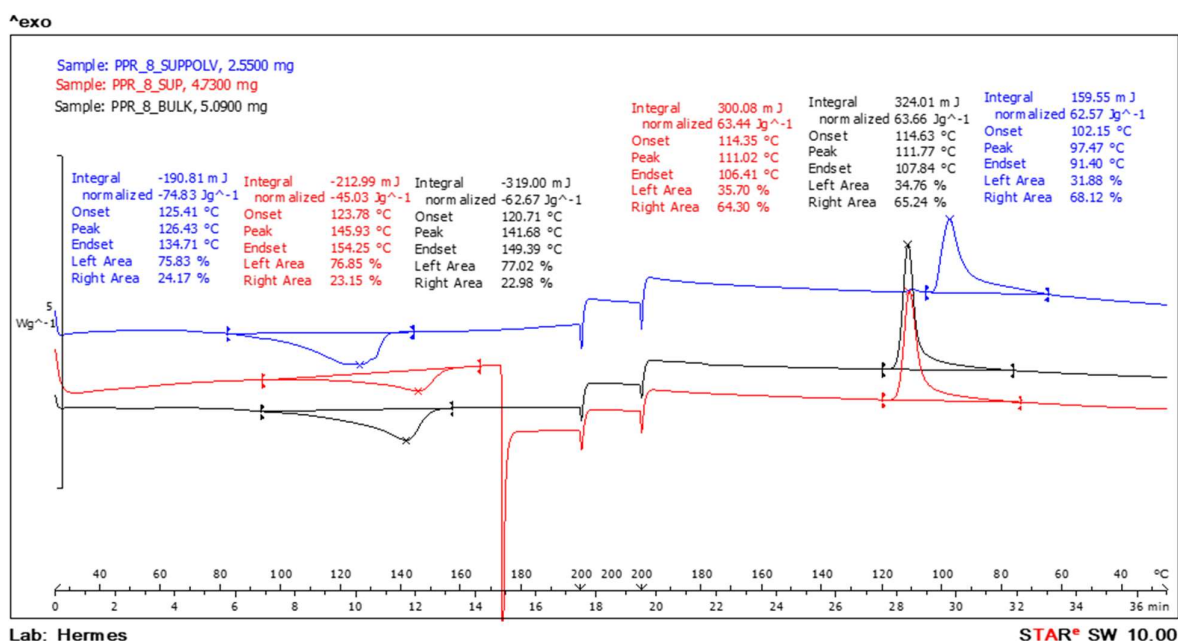


Figure S14: DSC analyses (First heating – cooling) on PPR pipe aged 8 weeks: bulk (black), surface (red), surface powder (blue)