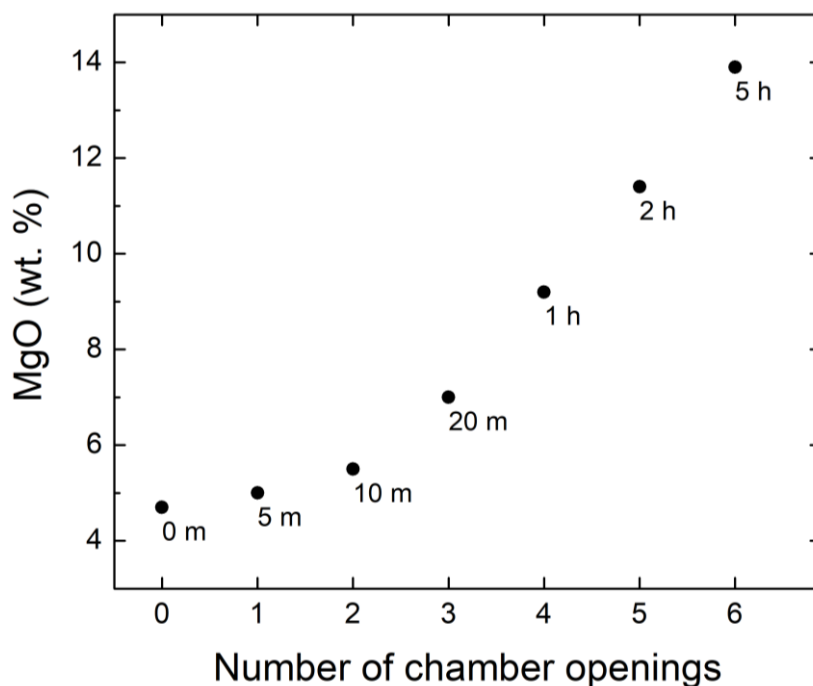


# Effective hydrogen production by hydrolysis of Mg wastes reprocessed by mechanical milling with iron and graphite

Supplementary information



**Figure S1:** Amount of MgO in the material as a function of the number of openings of the milling chamber to extract samples with different milling times (indicated as labels).

	Without Fe	With 1.5 wt% Fe
(Mg) crystalline	72(1)	74(2)
(Mg) nanocrystalline	19(1)	15(2)
Al	-	-
Mg <sub>17</sub> Al <sub>12</sub>	4.0(2)	3.6(2)
MgO	4.7(2)	5.1(3)
Fe	0.7(1)	2.5(1)
Al in (Mg) [wt. %]	7.2(2)	7.6(2)
Crystallite size [nm]	19(5)	22(5)
Microstrain [%]	0.8(1)	0.8(1)

**Table S2:** Effect of iron on phase abundance and microstructure from Rietveld refinement of diffractograms of materials milled 10 h without extra Fe and with 1.5 wt% Fe. Two (Mg) contributions have been included in the refinement, one regular and another one nanocrystalline that takes into account the amorphous-like contribution between Mg main peaks.