Supplementary Material (ESI) for Physical Chemistry Chemical Physics

Supplementary material

Radiolysis of water in nanoporous gold.

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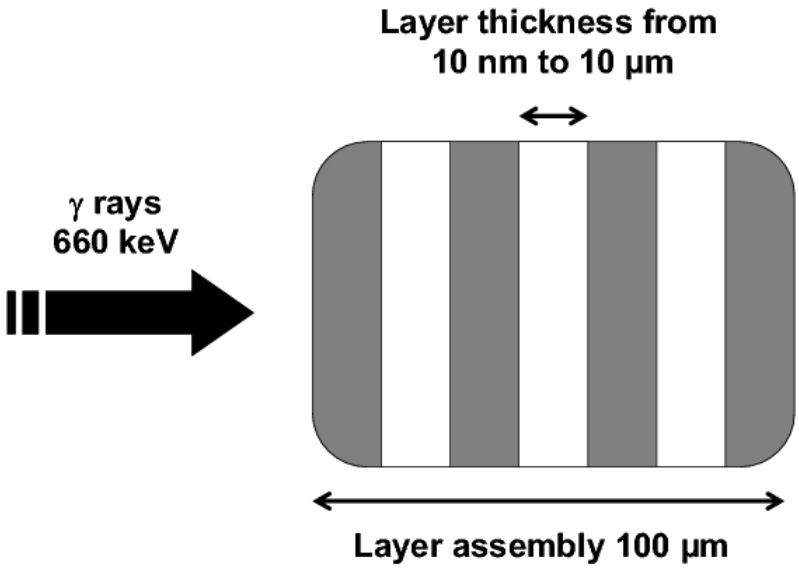


Figure S1: *Schematic description of the nanostructure water/material assembly used in the PENELOPE simulations. The water and material layers are of equal thickness, and their assembly is embedded in a homogeneous water material mixture to insure an electronic equilibrium*

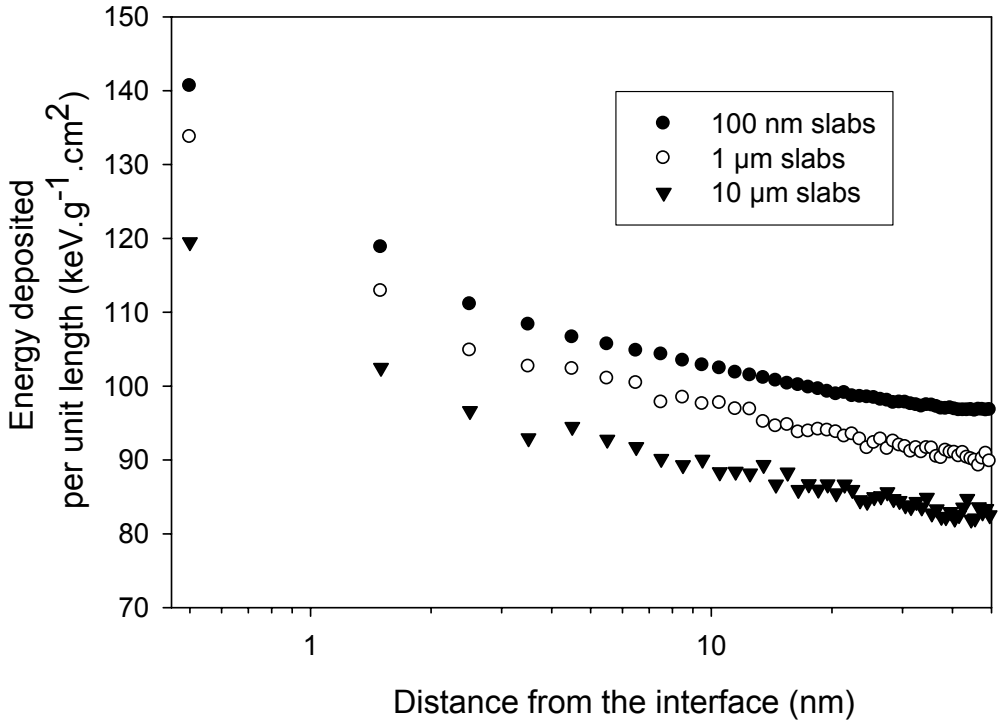


Figure S2: *Energy deposited in water in the vicinity of a gold surface for three different types of geometry.*

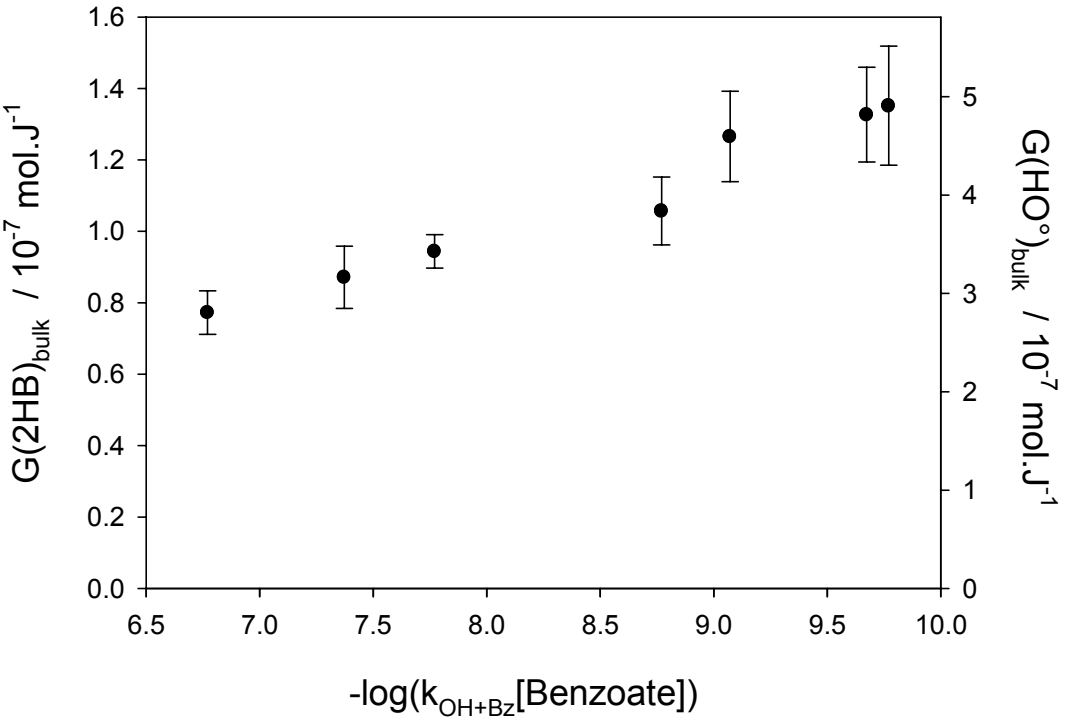
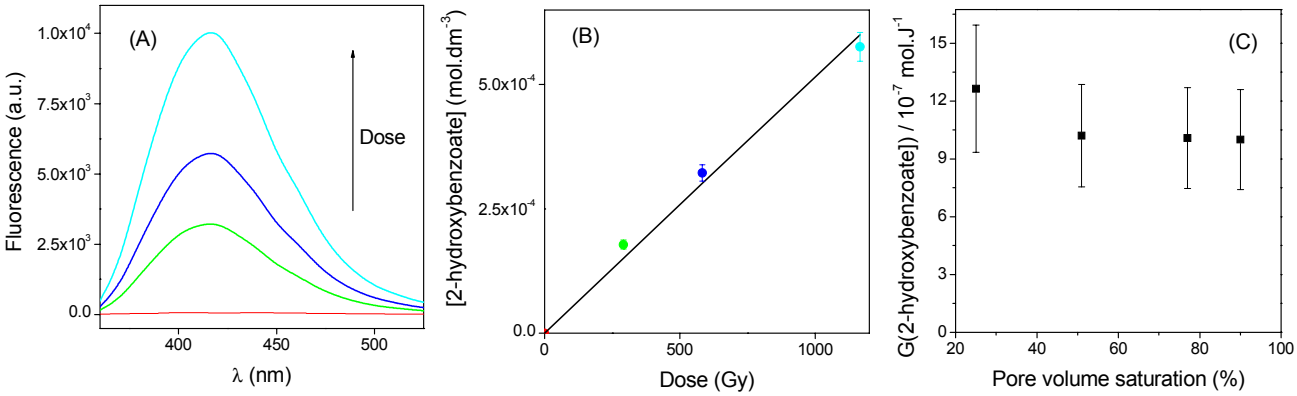


Figure S3: *Evolution of the radiolytic yield of production of 2 hydroxybenzoate (2HB) as a function of the scavenging efficiency. The transposition of data in hydroxyl radical yields is presented as right axis.*



FigureS4: (A) *Emission spectra (λ_{exc} = 300 nm) of the 2-hydroxybenzoate extracted from the porous gold samples and deduced* (B) *2-hydroxybenzoate concentration after irradiation of confined 0.1 mol.dm^{-3} sodium benzoate solutions as a function of the dose (0 in red,290 Gy in green, 583 Gy in blue 1166 Gy in cyan) (C) Evolution of the 2-hydroxybenzoate radiolytic yields in 1 mol.dm^{-3} sodium benzoate solutions as a function of the pore saturation. The yields are calculated with respect to the dose received in water.*

Table S1.

Glass	Mean pore diameter (nm)	Pore distribution (±%)	Pore volume (cm^3/g)	Specific area (m^2/cm^3)
CPG00500C	50	2.5	1.18	49.5