Supporting Information

Molecular emissions in sonoluminescence spectra of water sonicated under Ar-based gas mixtures

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Molecular emissions observed in SL spectra were simulated whenever possible using Specair software\cite{footnote7}, after subtraction of a baseline.

![Graph 1SI: Specair simulation of CO (X-X) emission for $T_v = 10000$ K, $T_r = 10000$ K and $p = 1000$ bar.](image1)

![Graph 2SI: Specair simulation of N\textsubscript{2} (C-B) emission for $T_v = 10000$ K, $T_r = 10000$ K and $p = 1000$ bar.](image2)
Fig. 3SI: Comparison of the experimental OH (A-X) emission under Ar with some Specair simulations. a) temperature variations; b) pressure variations. (The linear regression to create a baseline was performed in the range 304-324 nm.)

Fig. 4SI: Comparison of the experimental NH (A-X) emission (after subtraction of a linear baseline in the range 325-345 nm) under Ar-5%N₂ with some Specair simulations.
Fig. 5SI: Comparison of the experimental C₂ Swan emission under Ar-0.5% CO₂-5% N₂ with some Specair simulations.

Fig. 6SI: Comparison of the experimental CN violet emission under Ar-0.5% CO₂-5% N₂ with some Specair simulations.