Electronic Supporting information for:

Sensory polymeric foams as a tool for improving sensing performance of sensory polymers

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S1. Colorimetric detection of Hg(II)

S1.1 Green (G) and Blue (B) parameters variation of images of sensory discs and the reference material

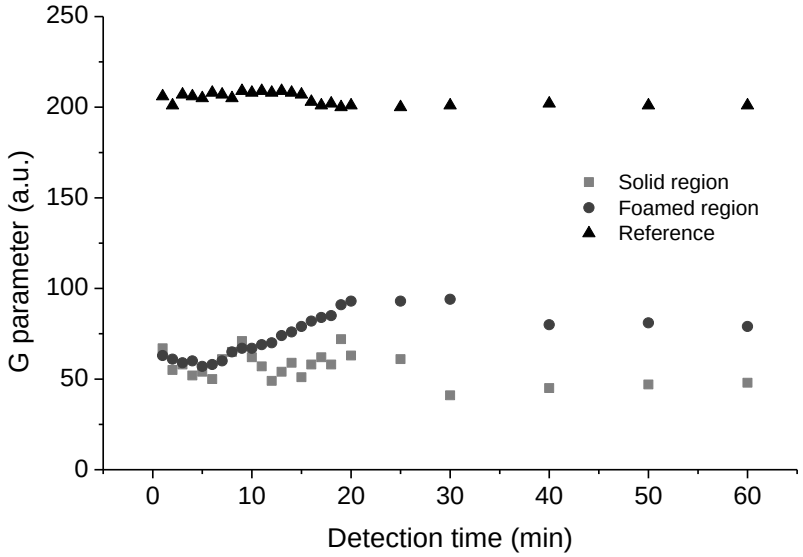

Figure S1. Evolution of the green parameter (G) of images of sensory films along time upon entering into contact with a water solution of Hg(II) (913 ppm).

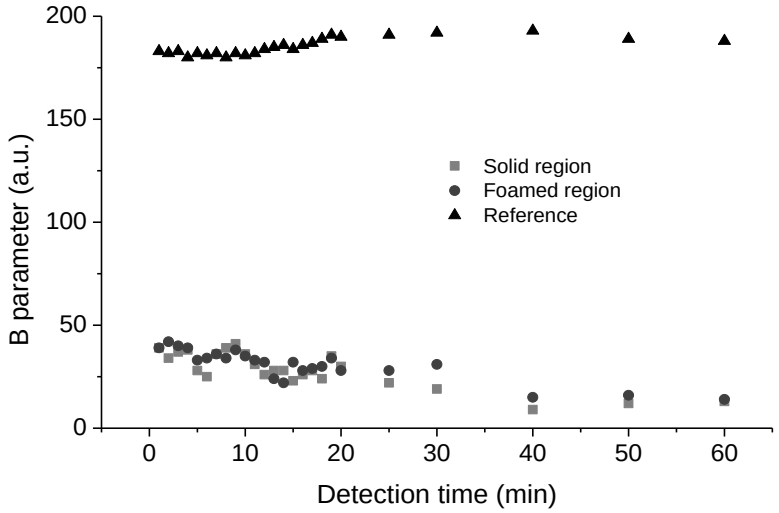

Figure S2. Evolution of the blue parameter (B) of images of sensory films along time upon entering into contact with a water solution of Hg(II) (913 ppm).

S1.2 Titration of Hg(II) examining the analysis of the RGB parameters of both foamed and solid discs using a digital picture

S1.2.1 Foamed discs

Table S1. Hg(II) concentrations, RGB parameters and **PC1** of each foamed disk. Values in red were neglected for plotting the titration curves.

Hg(II), ppb	Log [Hg(II), ppb]	R	G	B	PC1 (R&G)
0	**n/a**	**215**	**215**	**191**	**Not used**
1,00E-07	-7	16	28	32	-0,5770
5,00E-07	-6,3010	14	31	32	-0,5666
1,00E-06	-6	18	28	35	-0,5596
2,00E-06	**-5,6989**	**13**	**22**	**27**	**Not used**
3,00E-06	-5,5228	18	32	33	-0,5226

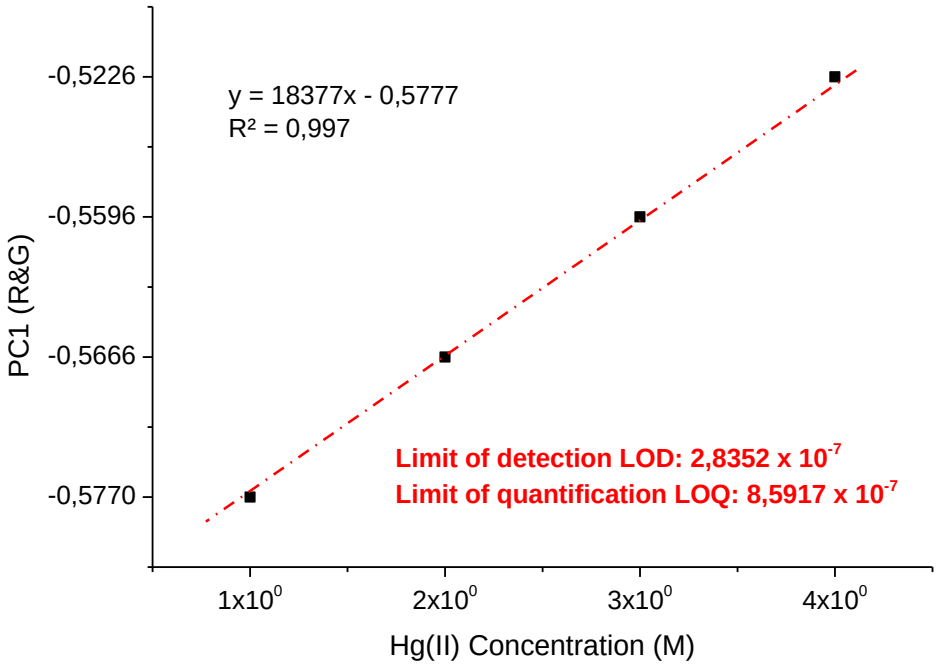

Figure S3. Variation of the **PC1** *vs* the logarithm of the Hg(II) concentration. Upon fitting with a two-degree polynomial, the mercury concentration in the test sample was calculated.

S1.2.2 Solid discs

Table S2. Hg(II) concentrations, RGB parameters and **PC1** of each solid disk. Values in red were neglected for plotting the titration curves.

Hg(II), ppb	Log [Hg(II), ppb]	R	G	B	PC1 (R&G)
0	**n/a**	**39**	**113**	**98**	**Not used**
1,00E-07	-7	20	100	73	-0,7688
5,00E-07	-6,3010	28	95	80	-0,2183
1,00E-06	-6	28	97	80	-0,3501
2,00E-06	**-5,6989**	**22**	**83**	**66**	**Not used**
3,00E-06	-5,5228	88	86	91	2,0352

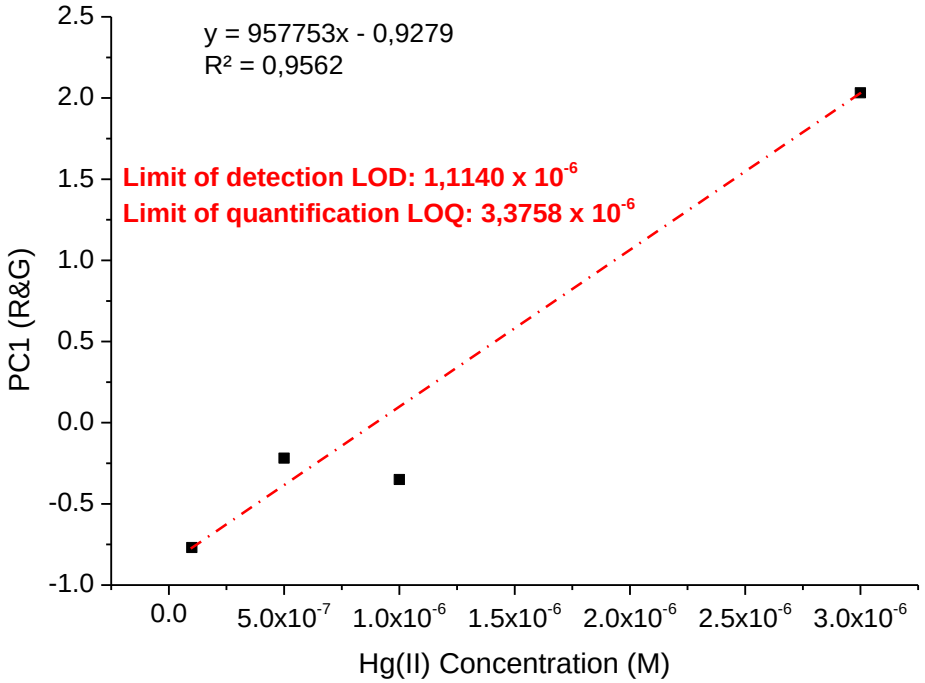

Figure S4. Variation of the **PC1** *vs* the logarithm of the Hg(II) concentration. Upon fitting with a two-degree polynomial, the mercury concentration in the test sample was calculated.