

## Supplementary Materials

# Effects of Oscillation Amplitude Variations on QCM Response to Microspheres of Different Sizes

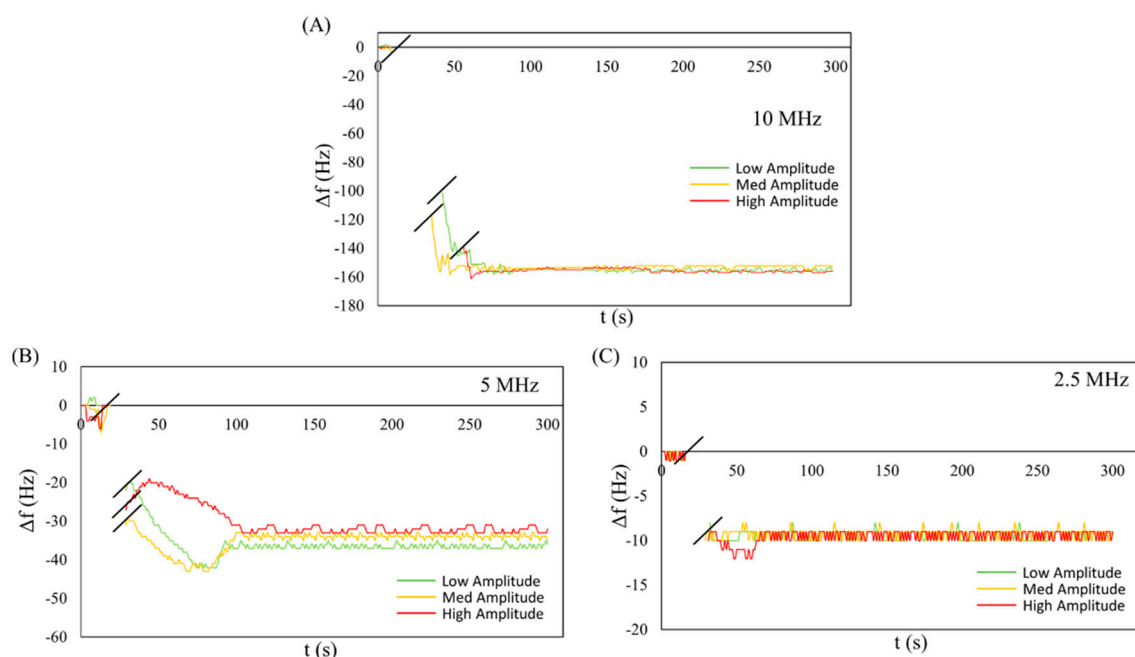
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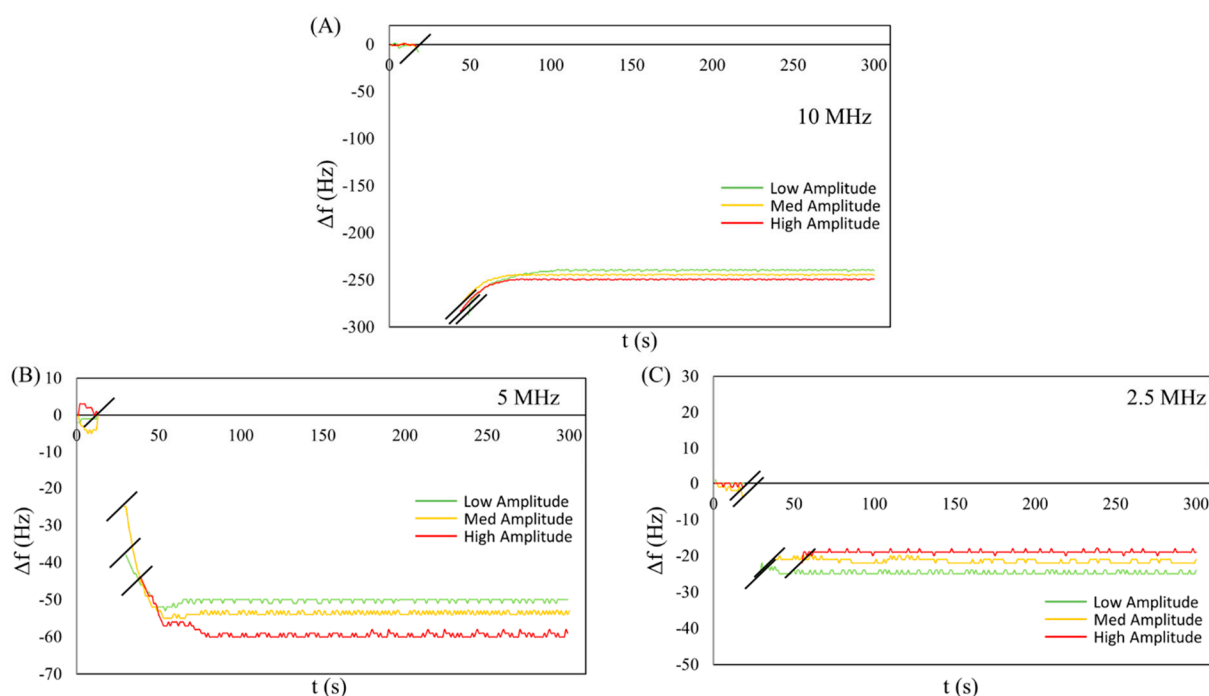


**Figure S1.** Chronograms for PVP solution on 10 MHz (A), 5 MHz (B), and 2.5 MHz (C) QCMs using different amplitude (low, medium, and high).

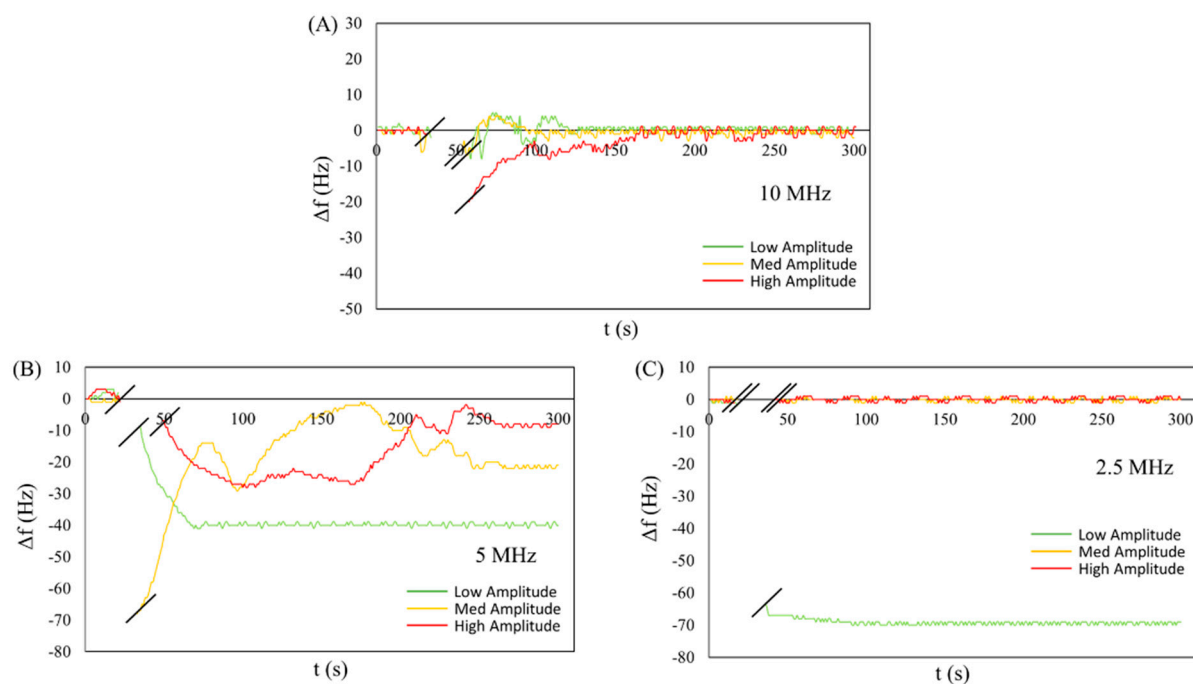
**Table S1.** The table resumes the results obtained for PVP<sub>sol</sub> changing amplitude (high, medium, low) on different QCMs (10, 5, 2.5 MHz).

QCM (MHz)	Amplitude	$ \Delta f $ (Hz)	$\Delta m$ (ng)	$\Delta m_e$ (ng)
10	High	157	196.3	$\pm 9.3$
	Medium	149	191.3	
	Low	156	195.1	
5	High	37	164.4	$\pm 20.6$
	Medium	34	169.3	
	Low	33	184.3	
2.5	High	10	201.3	$\pm 66.0$
	Medium	9	181.2	
	Low	9	181.2	

$\Delta m_e$  is the experimental mass error.

**Figure S2.** (MS2) 2  $\mu$ m microspheres dispersions chronograms on 10 MHz (A), 5 MHz (B), 2.5 MHz (C) QCMs with different oscillation amplitudes.**Table S2.** Results obtained for MS<sub>2</sub> modulating driving force (high, medium, low) on different QCMs (10, 5, 2.5 MHz).

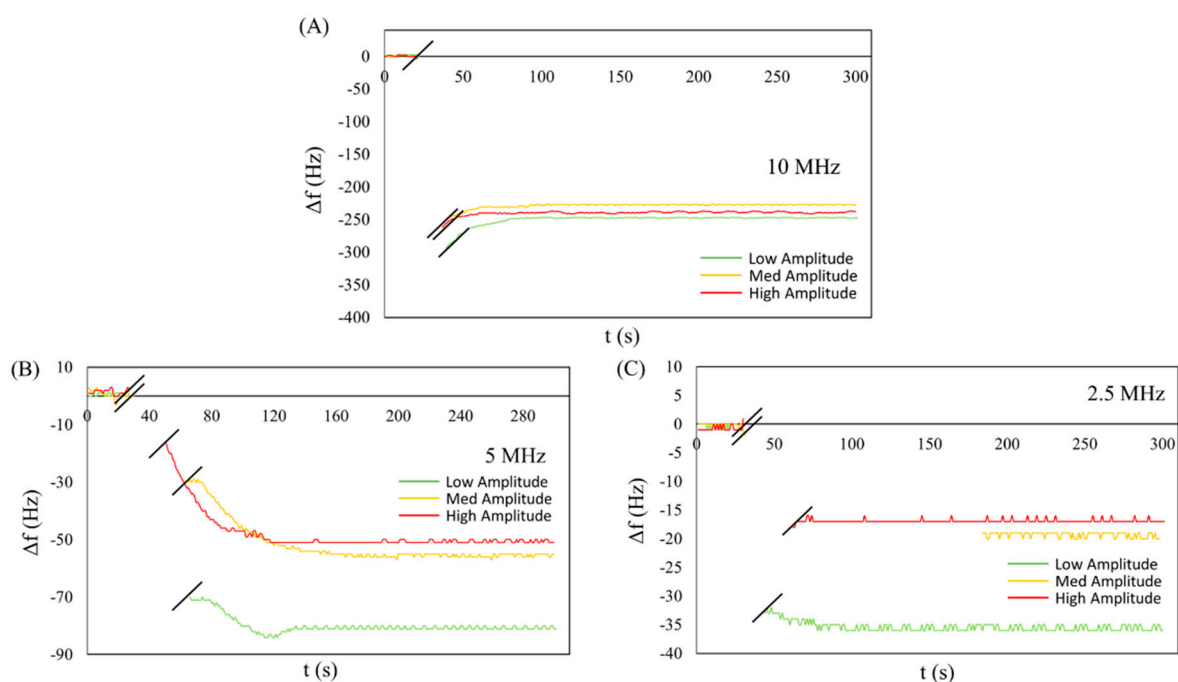
QCM (MHz)	Amplitude	$ \Delta f $ (Hz)
10	High	249
	Medium	245
	Low	240
5	High	58
	Medium	54
	Low	50
2.5	High	19
	Medium	21
	Low	25



**Figure S3.** (MS10) 10  $\mu\text{m}$  microspheres dispersions chronograms on 10 MHz (A), 5 MHz (B), 2.5 MHz (C) QCMs with different oscillation amplitudes.

**Table S3.** Results obtained for MS<sub>10</sub> modulating driving force (high, medium, low) on different QCMs (10, 5, 2.5 MHz).

QCM (MHz)	Driving force	$ \Delta f $ (Hz)
10	High	-
	Medium	-
	Low	-
5	High	9
	Medium	23
	Low	40
2.5	High	-
	Medium	-
	Low	69



**Figure S4.** Chronograms of MSMIX (2 e 10  $\mu\text{m}$ ) in EtOH on 10 MHz (A), 5 MHz (B), 2.5 MHz (C) QCMs with different oscillation amplitudes.

**Table S4.** The table resumes frequency variations for MS<sub>MIX</sub> on different QCMs (10, 5, 2.5 MHz) and oscillation amplitudes (high, medium, low).

QCM (MHz)	Driving force	$ \Delta f $ (Hz)
10	High	239
	Medium	227
	Low	247
5	High	36
	Medium	56
	Low	82
2.5	High	16
	Medium	18
	Low	37