Addition of Trans resveratrol loaded highly concentrate double emulsion to yoghurts: effect on physicochemical properties

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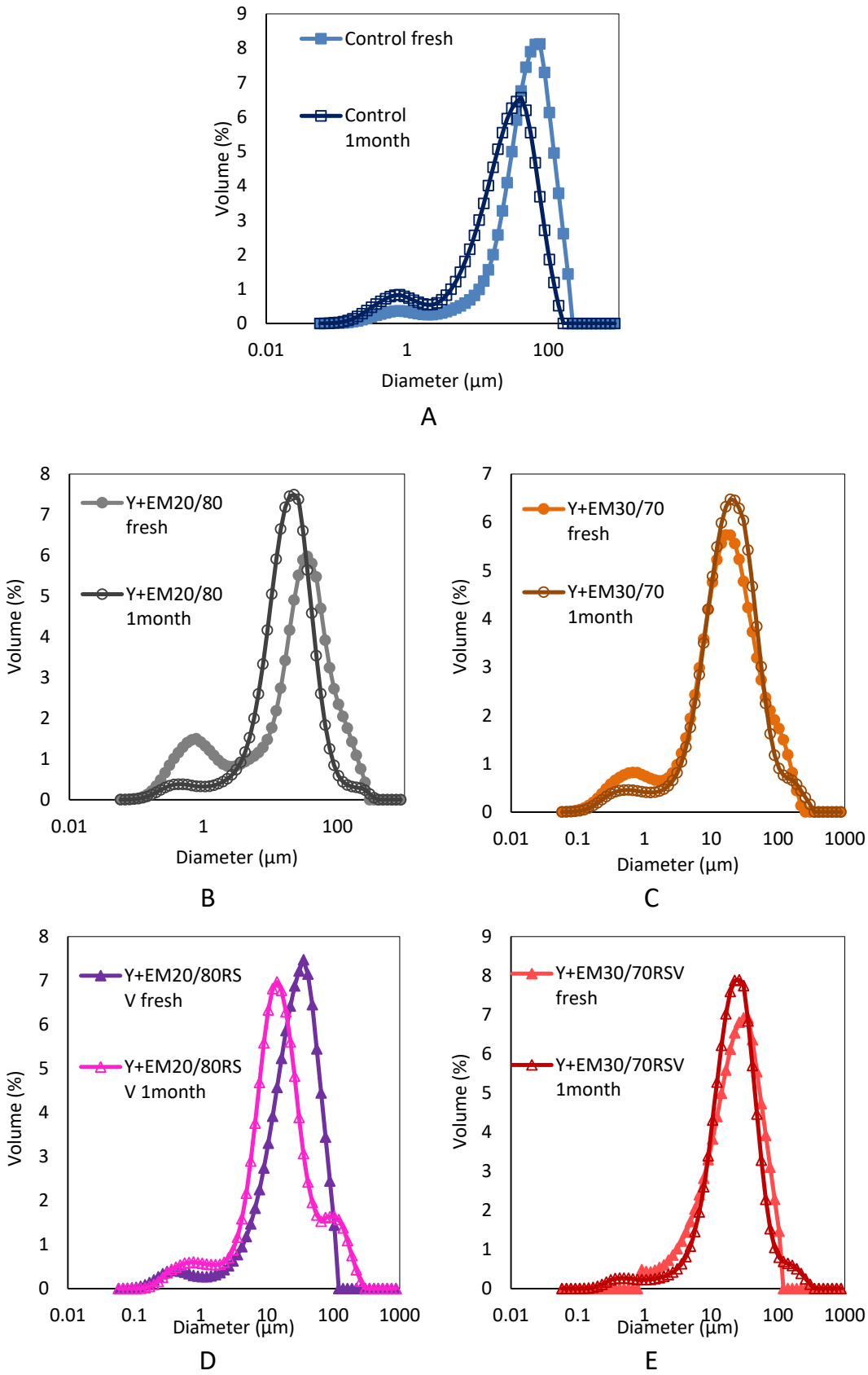


*Figure S1. Droplet size distribution of the different elaborated yoghurts, comparing each fresh yoghurt with its monthly counterpart.*

*Table S1. Mean diameters, D(v,0,5) and $D_{[4,3]}$, of the different samples prepared: control yoghurt and yoghurts with addition of double emulsions (EM20/80 and EM30/70) without and with RSV*

| | Fresh | | After storing 1 month at 4˚C | |
|---|---|---|---|---|
| **Type of yoghurt** | **D(v,0.5)** | **$D_{[4,3]}$** | **D(v,0.5)** | **$D_{[4,3]}$** |
| Control | 48.57 | 56.06 | 23.43 | 29.73 |
| Y+EM20/80 | 24.53 | 36.21 | 17.25 | 24.27 |
| Y+EM30/70 | 15.85 | 26.06 | 17.27 | 26.79 |
| Y+EM20/80 RSV | 23.74 | 28.49 | 20.16 | 27.25 |
| Y+EM30/70 RSV | 21.50 | 26.98 | 21.92 | 27.15 |

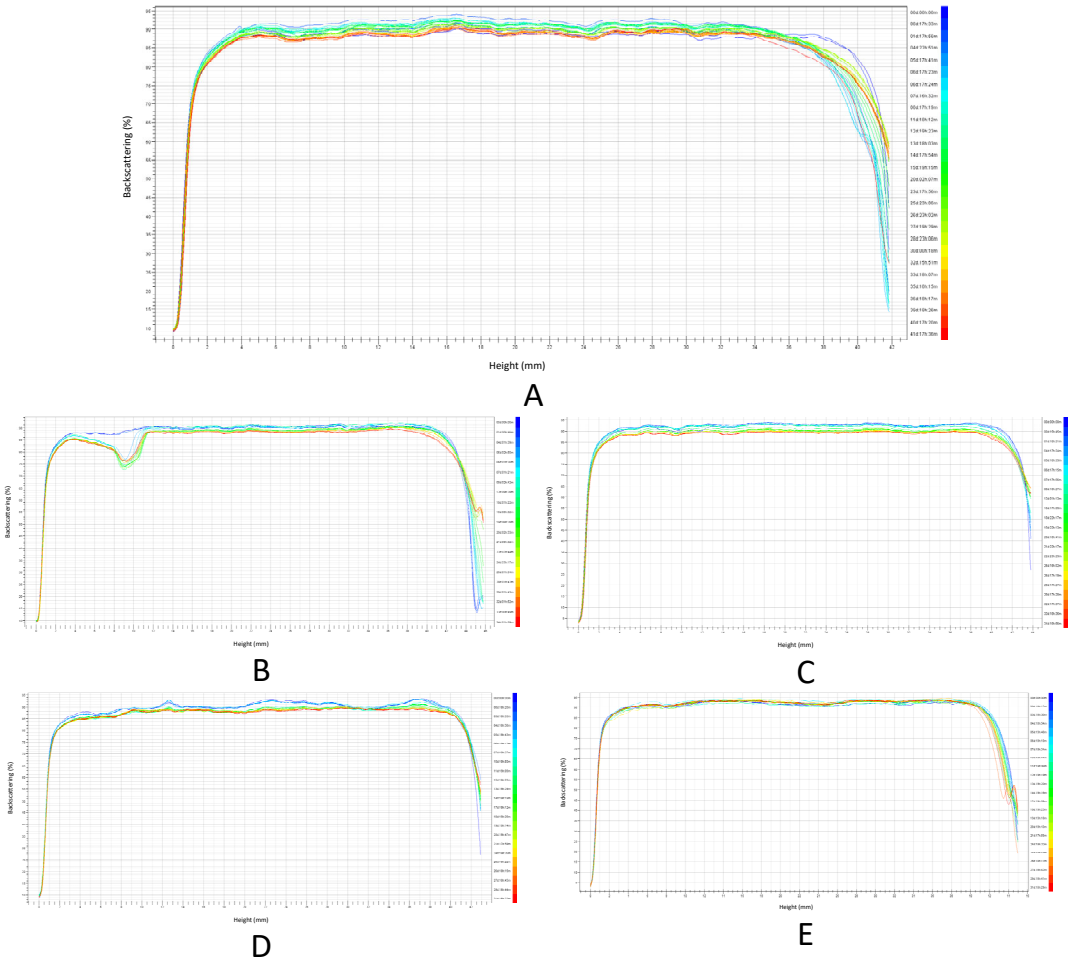


*Figure S2. Backscattering profiles of the different processed types of yoghurt: Control yoghurt (A); Yoghurt with emulsion without RSV 20:80 (B); Yoghurt with emulsion without RSV 30:70 (C); Yoghurt with emulsion with RSV 20:80 (D);Yoghurt with emulsion with RSV 30:70 (E)*

*Table S2. Results of the adjustment to the Herschel-Bulkley model of fresh and stored yoghurts for 1 month.*

| | | $\tau_0$ (Pa) | $K$ (Pa $s^n$) | n (-) | $r^2$ |
|---|---|---|---|---|---|
| Fresh | Control | -19.7 ± 0.01 | 58.5 ± 0.73 | 0.12 ± 0.001 | 0.95 ± 0.0005 |
| | Y+EM20/80 | -0.76 ± 2.9 | 20.5 ± 3.9 | 0.32 ± 0.04 | 0.98 ± 0.004 |
| | Y+EM30/70 | -4.68 ± 1.08 | 29.8 ± 3.63 | 0.25 ± 0.03 | 0.97 ± 0.01 |
| | Y+EM20/80RSV | -1632 ± 158 | 1681 ±161 | 0.002±0.0004 | 0.57 ± 0.16 |
| | Y+EM30/70RSV | -1595 ± 734 | 1647 ± 739 | 0.003±0.0013 | 0.561 ± 0.13 |
| After one month of storage | Control | -58.4 ± 7.33 | 101.5 ± 1.1 | 0.075 ± 0.007 | 0.934 ± 0.02 |
| | Y+EM20/80 | -1441 ± 525 | 1499 ± 526 | 0.004 ± 0.001 | 0.86 ± 0.004 |
| | Y+EM30/70 | -6.29 ± 4.7 | 34.7 ± 10.8 | 0.21 ± 0.055 | 0.97 ± 0.02 |
| | Y+EM20/80RSV | -1539 ± 366 | 1584 ± 374 | 0.003 ± 0.0003 | 0.795 ± 0.08 |
| | Y+EM30/70RSV | -2131 ± 64 | 2181 ± 62 | 0.002 ± 0 | 0.63 ± 0.045 |

*Table S3. Thixotropy values of yogurts at time zero (fresh) and after 1 month stored in a fridge.*

| Thixotropy (Pa/s) | | |
|---|---|---|
| Type of yoghurts | Fresh | After 1 month stored |
| Control | 1746 ± 0 | 1835 ± 136 |
| Y+EM20/80 | 1293 ± 0 | 2176 ± 6.4 |
| Y+EM30/70 | 1443 ± 139 | 1606 ± 298 |
| Y+EM20/80RSV | 1847 ± 187 | 1571 ± 344 |
| Y+EM30/70RSV | 1915.5 ± 200 | 1735 ± 65 |

*Table S4. Results obtained after the colorimetric analysis of yogurts at time zero (fresh) and after 1 month stored in a fridge*

| | Type of yoghurts | | | | |
|---|---|---|---|---|---|
| | **Fresh** | | | | |
| | Control | Y+EM20/80 | Y+EM30/70 | Y+EM20/80RSV | Y+EM30/70RSV |
| **L*** | 84.9 ± 0.9 | 85.0 ± 0.25 | 84.4 ± 0.97 | 84.5 ± 0.21 | 84.7 ± 0.7 |
| **a*** | 0.20 ± 0.1 | 0.23 ± 0.06 | 0.28 ± 0.18 | 0.35 ± 0.07 | 0.2 ± 0.28 |
| **b*** | 4.77± 0.4 | 4.87 ± 0.15 | 4.87 ± 0.15 | 4.85 ± 0.21 | 4.95 ± 0.07 |
| | **Month** | | | | |
| **L*** | 84.95 ± 0.07 | 84.95 ± 0.21 | 84.8 ± 0.66 | 85.7 ± 0.1 | 85 ± 1.27 |
| **a*** | 0.25 ± 0.07 | 0.15 ± 0.21 | 0.28 ± 0.10 | 0.40 ± 0.14 | 0.3 ± 0.00 |
| **b*** | 4.7 ± 0.14 | 4.60 ± 0.28 | 4.73 ± 0.10 | 4.80 ± 0.07 | 4.80 ± 0.14 |