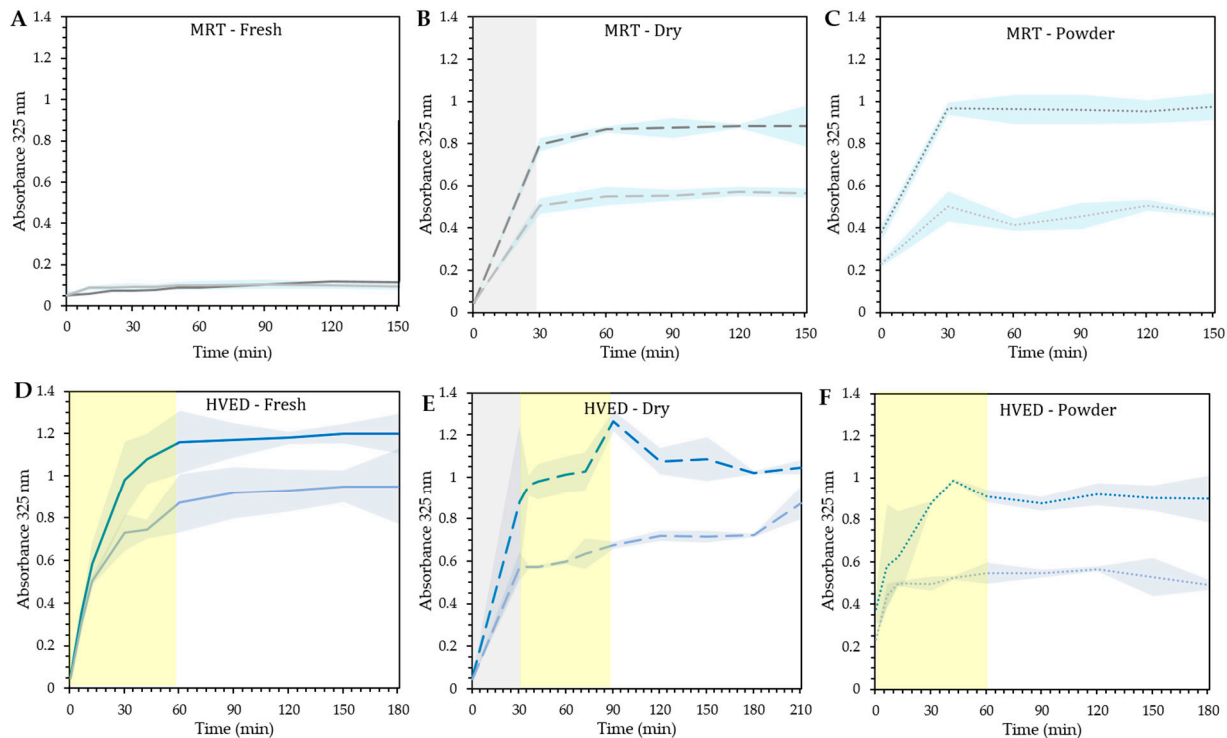
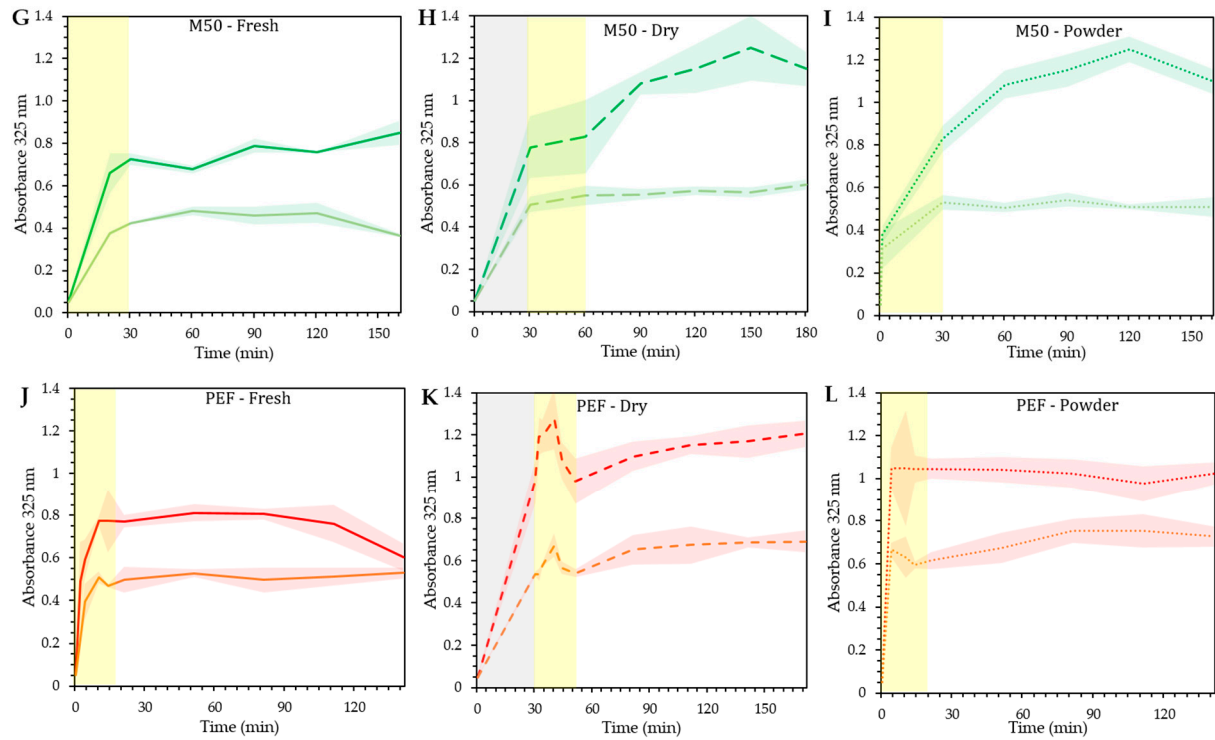


## Supplementary Materials

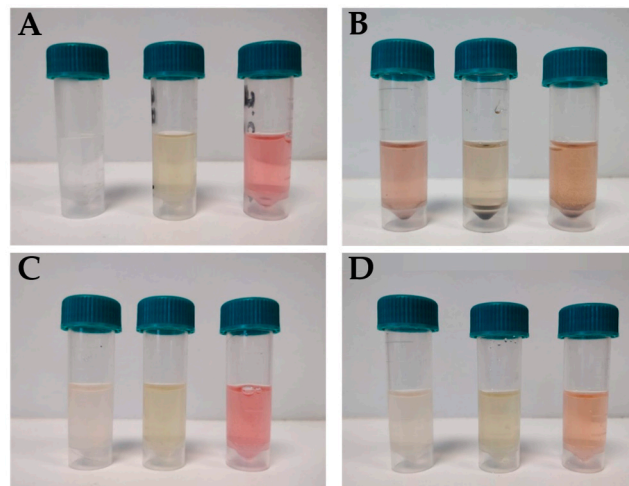
**Table S1.** Increases of temperature during treatment (500 kJ/kg sol)

State of GS	Treatment/ Ratio	Temperature increase (°C)	Maximum temperature (°C)
<b>Fresh</b>	HVED 1:20	12	30
	HVED 1:40	11	32
	PEF 1:20	34	49
	PEF 1:40	35	54
<b>Dry</b>	HVED 1:20	16	34
	HVED 1:40	16	35
	PEF 1:20	43	63
	PEF 1:40	41	56
<b>Powder</b>	HVED 1:20	15	33
	HVED 1:40	15	35
	PEF 1:20	36	56
	PEF 1:40	36	58

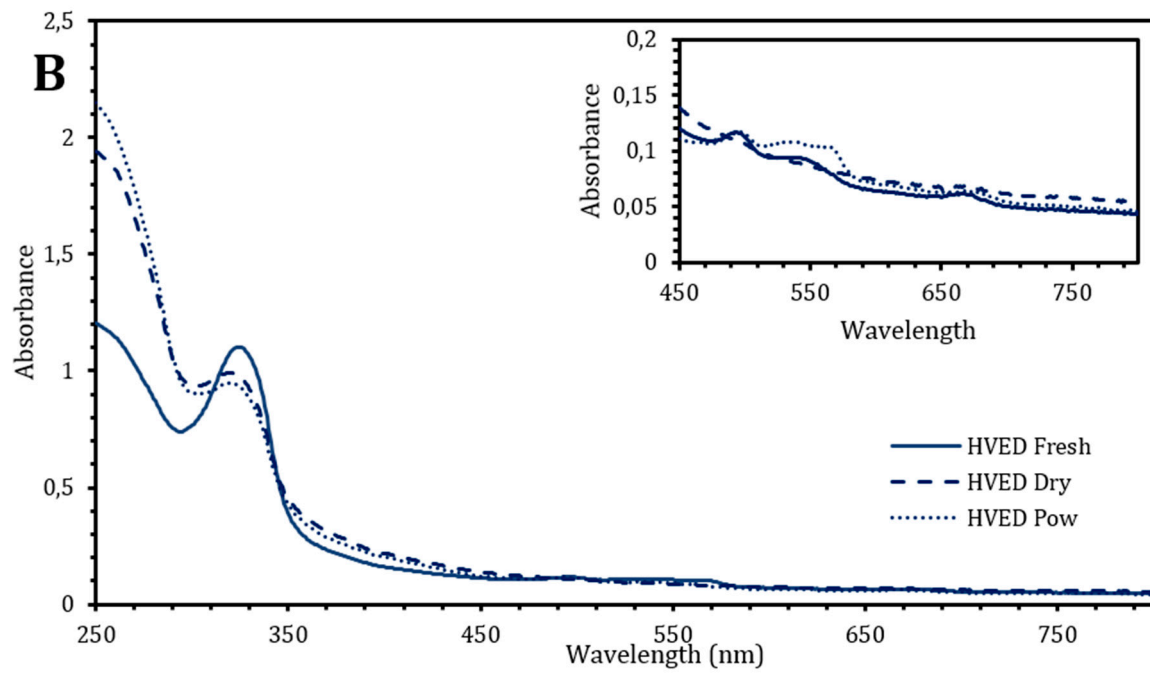
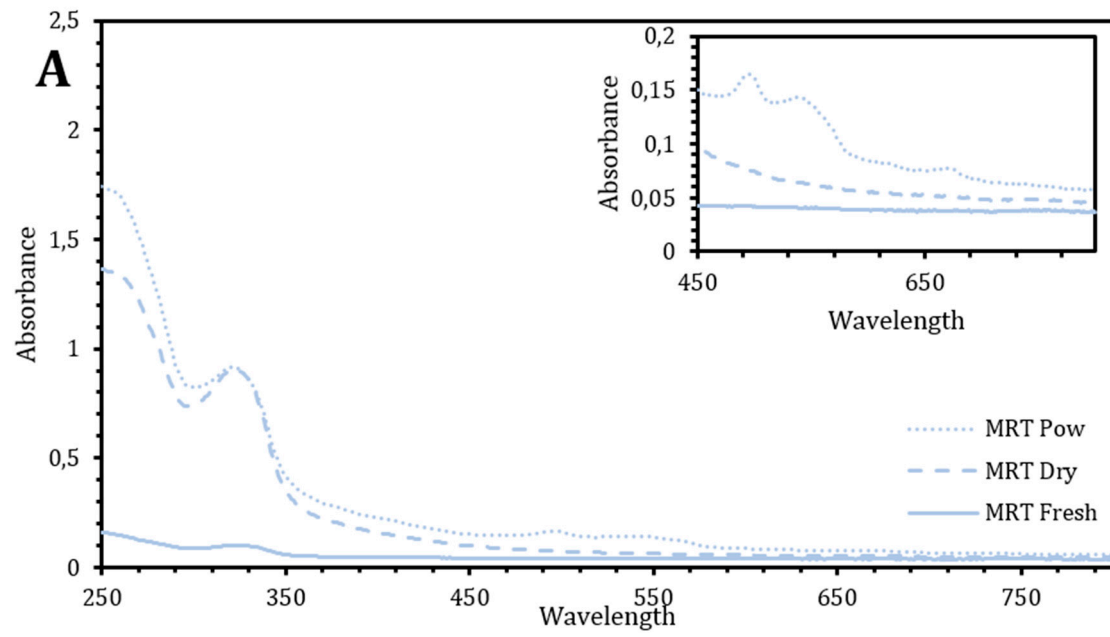




**Figure S1.** Comparison of the absorbance of UV-absorbing compounds (MAAs) at 325 nm of the two ratios: 1:20 (top curve) and 1:40 (bottom curve). (A-C). MRT; (D-F). HVED; (G-I) M50; (J-L) PEF. Yellow areas represent the treatment period. Grey areas represent initial rehydration step. Shaded areas represent the standard deviation of subsamples (n=2).



**Figure S2.** Aspect of extracts fresh, dry, powdered algal extracts (from left to right) using: (A) MRT (B) HVED; (C) M50; (D) PEF.



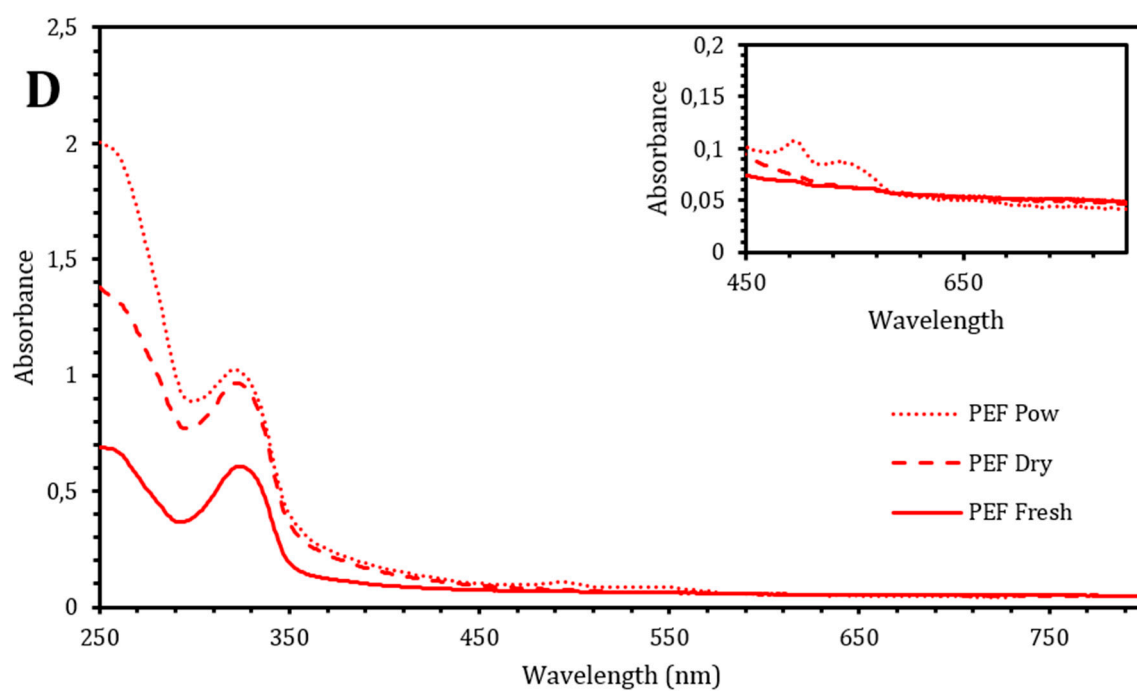
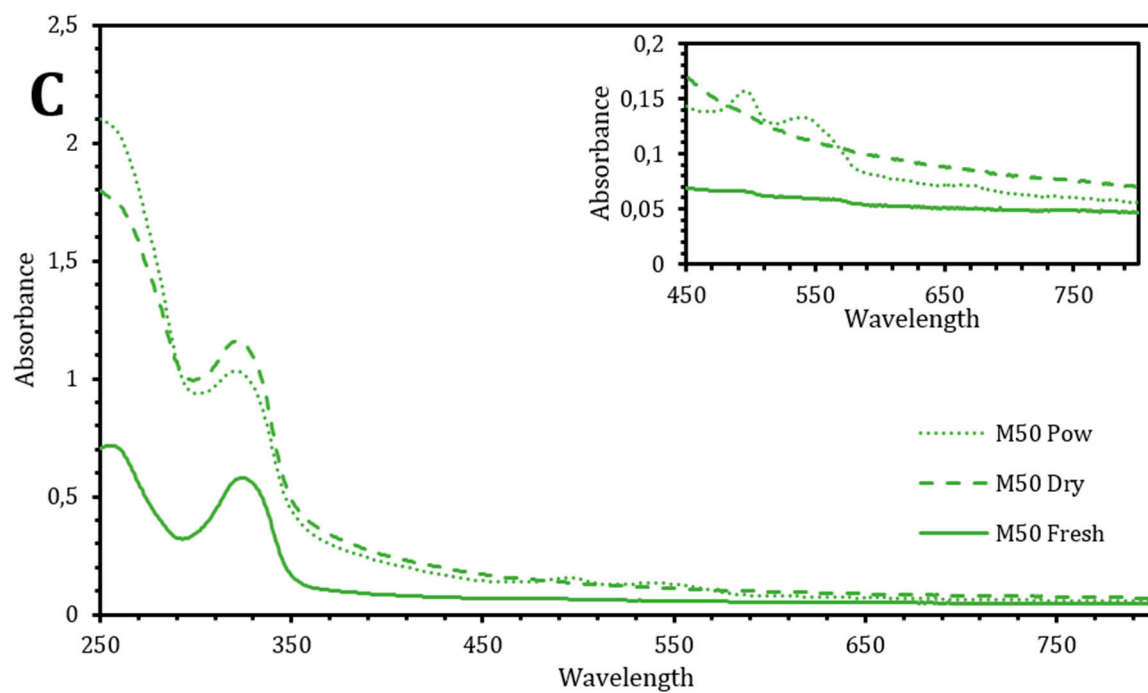
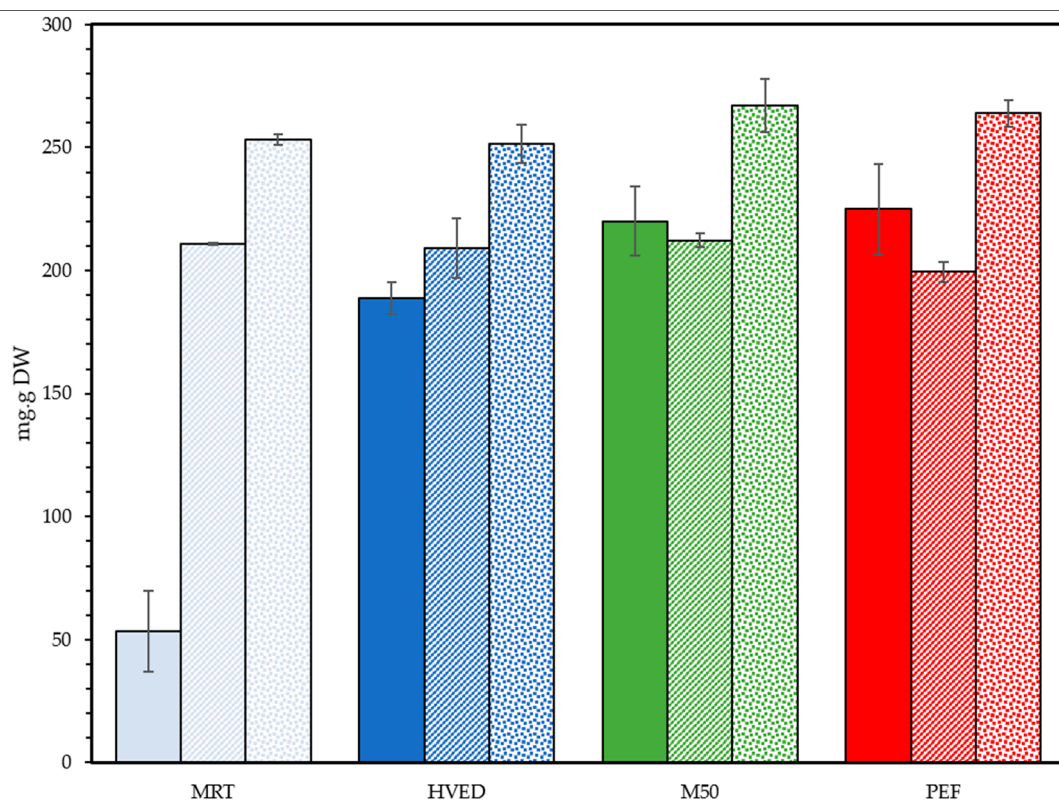
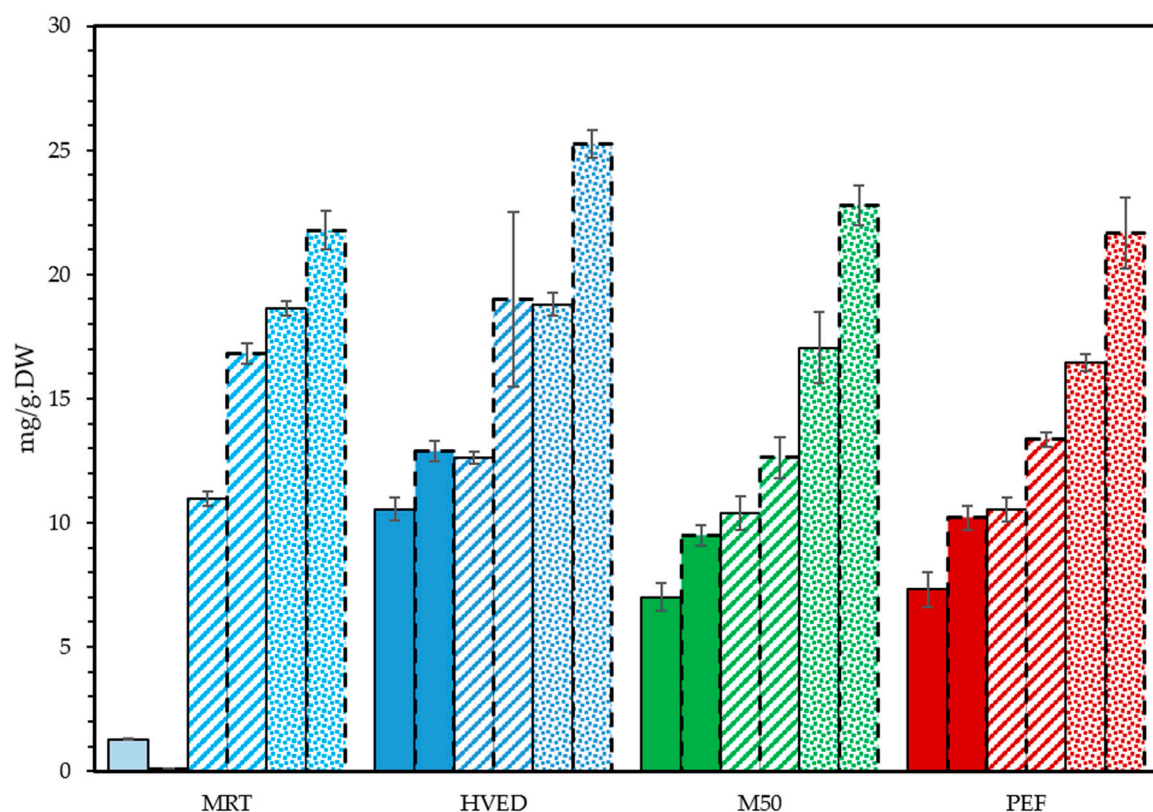


Figure S3. UV-Vis Spectra of extracts post-maceration. Insets display zoomed area between 450 and 800 nm. A/ MRT extracts B/ HVED C/ M50 D/PEF



**Figure S4.** Dry weight of soluble compounds extracted from GS at 1:40 ratio. Data are shown as mean  $\pm$  SD (n=3). Upper case letters signify differences between treatments (values averaged across State, n=12). Lower case letters denote significant differences between States by Treatment n=3). Type III ANOVA with Turkey Post-Hoc test.



**Figure S5.** Total protein yields in different treatments. Solid fill: fresh GS. Dashed fill: dry GS. Dotted fill: powdered GS. Data are shown as mean  $\pm$  SD (n=4)

Table S2. Protein content of dry extracts for both 1:20 and 1:40 ratios.

Protein Content of Dry Extracts						
		MRT	HVED	M50	PEF	Average
Fresh	1:20	13.3 $\pm$ 0.2 %	8.8 $\pm$ 0.3 %	3.5 $\pm$ 0.3 %	3.9 $\pm$ 0.4 %	6.2 $\pm$ 3.4 %
	1:40	4.8 $\pm$ 1.3 %	6.8 $\pm$ 0.2 %	4.3 $\pm$ 0.2 %	4.2 $\pm$ 0.2 %	
Dry	1:20	6.0 $\pm$ 0.3 %	6.5 $\pm$ 0.3 %	5.4 $\pm$ 0.2 %	5.2 $\pm$ 0.2 %	7.0 $\pm$ 1.0 %
	1:40	8.0 $\pm$ 0.2 %	9.1 $\pm$ 1.7 %	8.8 $\pm$ 0.4 %	8.2 $\pm$ 0.1 %	
Powder	1:20	6.8 $\pm$ 0.1 %	7.4 $\pm$ 0.2 %	6.8 $\pm$ 0.6 %	6.2 $\pm$ 0.1 %	7.7 $\pm$ 1.3 %
	1:40	8.6 $\pm$ 0.3 %	10.0 $\pm$ 0.2 %	8.5 $\pm$ 0.3 %	7.0 $\pm$ 0.5 %	
Average		8.0 $\pm$ 0.4 %	8.1 $\pm$ 0.5 %	6.0 $\pm$ 0.3	5.7 $\pm$ 0.3	