

Supplementary Table 1. The adherence test results (*S. mutans*) for experimental control material and commercial composite (AB).

| CQA-PEI-NP, % /<br>abbreviation | Number of adhered bacteria, $\times 10^2$ CFU/mL |     |   |     |   |   |      | Positive control |
|---------------------------------|--------------------------------------------------|-----|---|-----|---|---|------|------------------|
|                                 | 0                                                | 0.5 | 1 | 1.5 | 2 | 3 | AB   |                  |
|                                 | 15.1                                             | 0   | 0 | 0   | 0 | 0 | 13.6 | Control          |
|                                 | 14.6                                             | 0   | 0 | 0   | 0 | 0 | 13.5 | 131.1            |
|                                 | 12.5                                             | 0   | 0 | 0   | 0 | 0 | 12.5 | 120.4            |
|                                 | 21.1                                             | 0   | 0 | 0   | 0 | 0 | 10.6 | 116.9            |
|                                 | 20.9                                             | 0   | 0 | 0   | 0 | 0 | 10.0 | 115.0            |
|                                 | 18.0                                             | 0   | 0 | 0   | 0 | 0 | 9.2  | 93.0             |
| AV                              | 17.0                                             | 0   | 0 | 0   | 0 | 0 | 11.6 | 110.1            |
| SD                              | 32.3                                             | 0   | 0 | 0   | 0 | 0 | 17.2 | 16.3             |

Supplementary Table 2. The absorbance values and viability of L-929 cells after 24 h of incubation with the 2-days and 10 days extracts.

| CQA-PEI-NP, %       | Absorbance, $\lambda = 550 \text{ nm}^*$ |       |       |       |       |       |       | Cell Viability Assay test, % |      |      |      |      |      |       |
|---------------------|------------------------------------------|-------|-------|-------|-------|-------|-------|------------------------------|------|------|------|------|------|-------|
|                     | 0                                        | 0.5   | 1     | 1.5   | 2     | 3     | CM**  | 0                            | 0.5  | 1    | 1.5  | 2    | 3    | CM**  |
| 2 days<br>extracts  | 0.210                                    | 0.192 | 0.201 | 0.199 | 0.199 | 0.181 | 0.253 | 89.7                         | 82   | 85.9 | 85   | 85   | 77.4 | 108.1 |
|                     | 0.217                                    | 0.227 | 0.201 | 0.199 | 0.205 | 0.182 | 0.210 | 92.7                         | 97   | 85.9 | 85   | 87.6 | 77.8 | 89.7  |
|                     | 0.196                                    | 0.218 | 0.208 | 0.208 | 0.206 | 0.195 | 0.237 | 83.8                         | 93.2 | 88.9 | 88.9 | 88   | 83.3 | 101.3 |
|                     | 0.216                                    | 0.215 | 0.220 | 0.208 | 0.202 | 0.211 | 0.280 | 92.3                         | 91.9 | 94   | 88.9 | 86.3 | 90.2 | 119.6 |
| 10 days<br>extracts | 0.202                                    | 0.200 | 0.212 | 0.185 | 0.204 | 0.177 | 0.227 | 86.3                         | 85.5 | 90.6 | 79   | 87.2 | 75.6 | 97.0  |
|                     | 0.214                                    | 0.190 | 0.197 | 0.193 | 0.204 | 0.177 | 0.215 | 91.4                         | 81.2 | 84.2 | 82.5 | 87.2 | 75.6 | 91.9  |
|                     | 0.214                                    | 0.204 | 0.213 | 0.193 | 0.185 | 0.183 | 0.210 | 91.4                         | 87.2 | 91   | 82.5 | 79   | 78.2 | 89.7  |
|                     | 0.223                                    | 0.199 | 0.199 | 0.197 | 0.188 | 0.198 | 0.247 | 95.3                         | 85   | 85   | 84.2 | 80.3 | 84.6 | 105.6 |

\*The mean value of the absorbance of the control sample (cells contacted with fresh culture medium) from six replicates was \*0.234; \*\* CM - culture medium incubated without composite

Supplementary Table 3. Absorbance values and viability of L-929 cells after 24 h of incubation with the 2-days and 10 days extracts of experimental control (0% of QA-PEI-NPs) and commercial composite (AB).

| Time of extracting | Absorbance, $\lambda = 550 \text{ nm}^*$ |       |       | Cell Viability Assay test, % |       |      |
|--------------------|------------------------------------------|-------|-------|------------------------------|-------|------|
| 2 days             | 0 %                                      | AB    | CM**  | 0 %                          | AB    | CM** |
|                    | 1.117                                    | 1.22  | 1.235 | 77.5                         | 84.7  | 85.7 |
|                    | 1.167                                    | 1.18  | 1.156 | 81                           | 81.9  | 80.2 |
|                    | 1.189                                    | 1.174 | 1.194 | 82.5                         | 81.5  | 82.8 |
|                    | 1.175                                    | 1.238 | 1.239 | 81.5                         | 85.9  | 86   |
| AV                 |                                          |       |       | 80.6                         | 83.5  | 83.7 |
| SD                 |                                          |       |       | 1.9                          | 1.9   | 2.4  |
| 10 days            | 1.197                                    | 1.144 | 1.399 | 83.1                         | 79.4  | 97.1 |
|                    | 1.215                                    | 1.253 | 1.246 | 84.3                         | 87.0  | 86.5 |
|                    | 1.224                                    | 1.232 | 1.237 | 94.9                         | 85.5  | 85.8 |
|                    | 1.161                                    | 1.312 | 1.16  | 80.6                         | 91    | 80.5 |
| AV                 |                                          |       |       | 83.2                         | 85.73 | 87.5 |
| SD                 |                                          |       |       | 1.7                          | 4.2   | 6.0  |

\*The mean value of the absorbance of the control sample (cells contacted with fresh culture medium) from six replicates was \*1,441; \*\* CM - culture medium incubated without composite; cell viability assay test results: 0% vs AB were  $p=0.1102$  and  $p=0.2482$  for 2 days and 10 days extracts, respectively and 2 day vs. 10 days extracts were  $p=0.1489$  and  $p=0.3865$  for 0% and AB, respectively.