

# **New hydrophilic material based on hydrogel polymer for the selective enrichment of intact glycopeptides from serum protein digests**

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**Table S1.** Amount of reagents employed for the preparation of the 17 materials used for the optimization of glycopeptide enrichment.

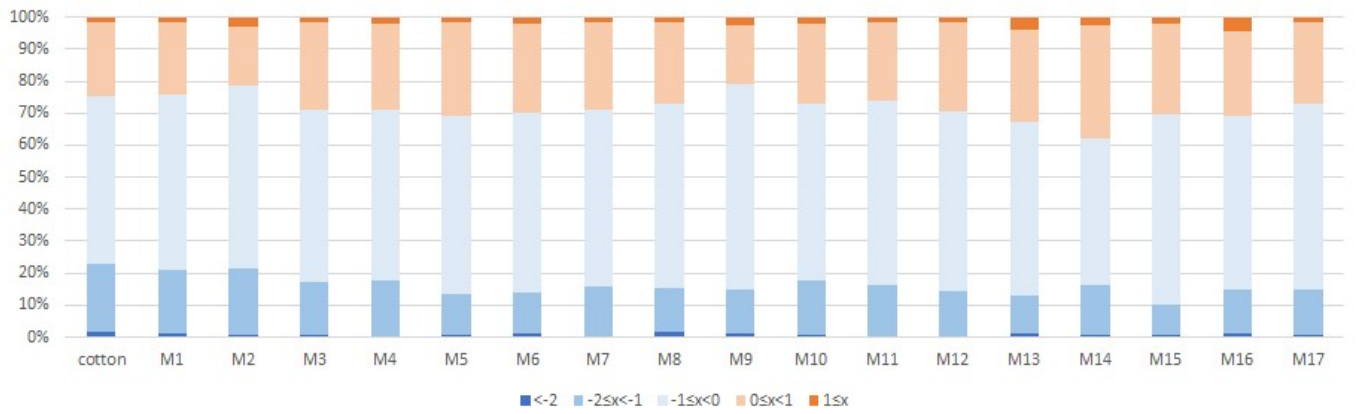
| <b>Exp</b>                             | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>11</b> | <b>12</b> | <b>13</b> | <b>14</b> | <b>15</b> | <b>16</b> | <b>17</b> |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>AMPS<br/>(mg)</b>                   | 15       | 6        | 15       | 15       | 15       | 24       | 15       | 6        | 24       | 15        | 24        | 15        | 6         | 15        | 15        | 6         | 24        |
| <b>EGDMA<br/>(<math>\mu</math>L)</b>   | 14       | 23       | 14       | 14       | 14       | 6        | 14       | 23       | 6        | 14        | 6         | 14        | 23        | 14        | 14        | 23        | 6         |
| <b>DMSO<br/>(<math>\mu</math>L)</b>    | 180      | 150      | 210      | 180      | 180      | 150      | 180      | 210      | 180      | 180       | 210       | 150       | 180       | 210       | 150       | 180       | 180       |
| <b>ACN<br/>(<math>\mu</math>L)</b>     | 60       | 75       | 0        | 60       | 60       | 75       | 60       | 45       | 120      | 60        | 45        | 0         | 120       | 90        | 150       | 0         | 0         |
| <b>Butanol<br/>(<math>\mu</math>L)</b> | 60       | 75       | 90       | 60       | 60       | 75       | 60       | 45       | 0        | 60        | 45        | 150       | 0         | 0         | 0         | 120       | 120       |

**Table S28.** ANOVA results for Box-Behnken design for the linear model and the glycopeptide response. The **Model F-value** of 9.09 implies the model is significant. There is only a 0.17% chance that an F-value this large could occur due to noise. **P-values** less than 0.0500 indicate model terms are significant. AMPS and acetonitrile % (ACN%) are significant model terms. The **Lack of Fit F-value** of 2.15 implies the Lack of Fit is not significant relative to the pure error. There is a 23.97% chance that a Lack of Fit F-value this large could occur due to noise. Non-significant lack of fit is good.

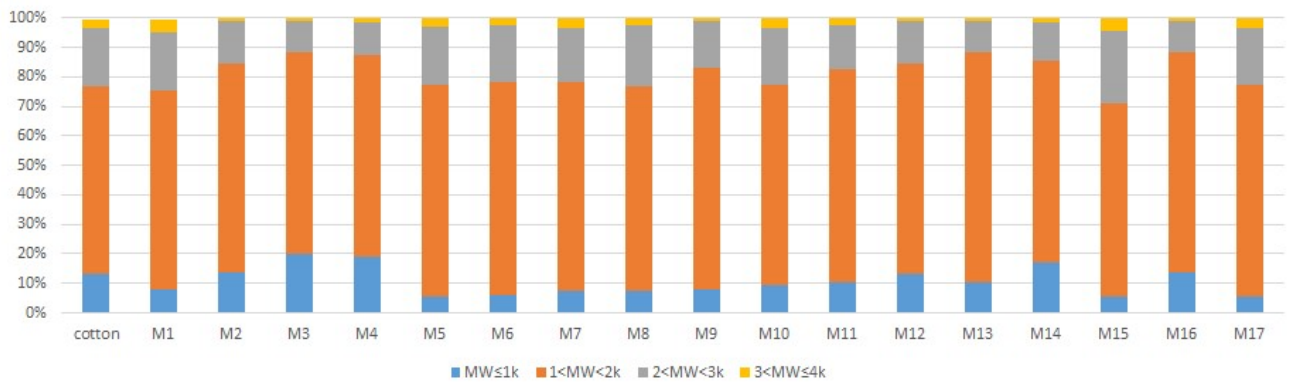
| Source           | Sum of Squares | df | Mean Square | F-value     | p-value       |                        |
|------------------|----------------|----|-------------|-------------|---------------|------------------------|
| <b>Model</b>     | 2.874E+05      | 3  | 95796.58    | <b>9.09</b> | 0.0017        | <b>significant</b>     |
| AMPS             | 2.077E+05      | 1  | 2.077E+05   | 19.71       | <b>0.0007</b> |                        |
| Porogen%         | 18624.50       | 1  | 18624.50    | 1.77        | 0.2065        |                        |
| ACN%             | 61075.12       | 1  | 61075.12    | 5.80        | <b>0.0316</b> |                        |
| <b>Residual</b>  | 1.370E+05      | 13 | 10535.01    |             |               |                        |
| Lack of Fit      | 1.135E+05      | 9  | 12610.71    | 2.15        | 0.2397        | <b>not significant</b> |
| Pure Error       | 23458.80       | 4  | 5864.70     |             |               |                        |
| <b>Cor Total</b> | 4.243E+05      | 16 |             |             |               |                        |

**Table S29.** ANOVA results for Box-Behnken design for the linear model and the selectivity response. The **Model F-value** of 5.87 implies the model is significant. There is only a 0.92% chance that an F-value this large could occur due to noise. **P-values** less than 0.0500 indicate model terms are significant. In this case, porogen % and acetonitrile% (ACN%) are significant model terms. Values greater than 0.1000 indicate the model terms are not significant. The **Lack of Fit F-value** of 2.79 implies the Lack of Fit is not significant relative to the pure error. There is a 16.82% chance that a Lack of Fit F-value this large could occur due to noise.

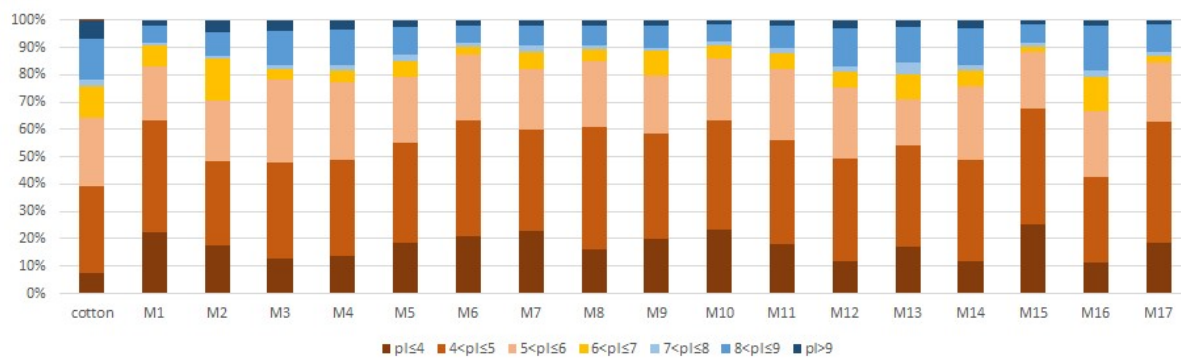
| Source           | Sum of Squares | df | Mean Square | F-value     | p-value       |                        |
|------------------|----------------|----|-------------|-------------|---------------|------------------------|
| <b>Model</b>     | 1544.50        | 3  | 514.83      | <b>5.87</b> | 0.0092        | <b>significant</b>     |
| AMPS             | 242.00         | 1  | 242.00      | 2.76        | 0.1205        |                        |
| Porogen%         | 420.50         | 1  | 420.50      | 4.80        | <b>0.0474</b> |                        |
| ACN%             | 882.00         | 1  | 882.00      | 10.06       | <b>0.0074</b> |                        |
| <b>Residual</b>  | 1139.74        | 13 | 87.67       |             |               |                        |
| Lack of Fit      | 982.94         | 9  | 109.22      | 2.79        | 0.1682        | <b>not significant</b> |
| Pure Error       | 156.80         | 4  | 39.20       |             |               |                        |
| <b>Cor Total</b> | 2684.24        | 16 |             |             |               |                        |



**Figure S1.** Results for the analysis of the GRAVY (grand average of hydropathy) values associated with the co-enriched peptides for the cotton and polymeric materials M1-M17.

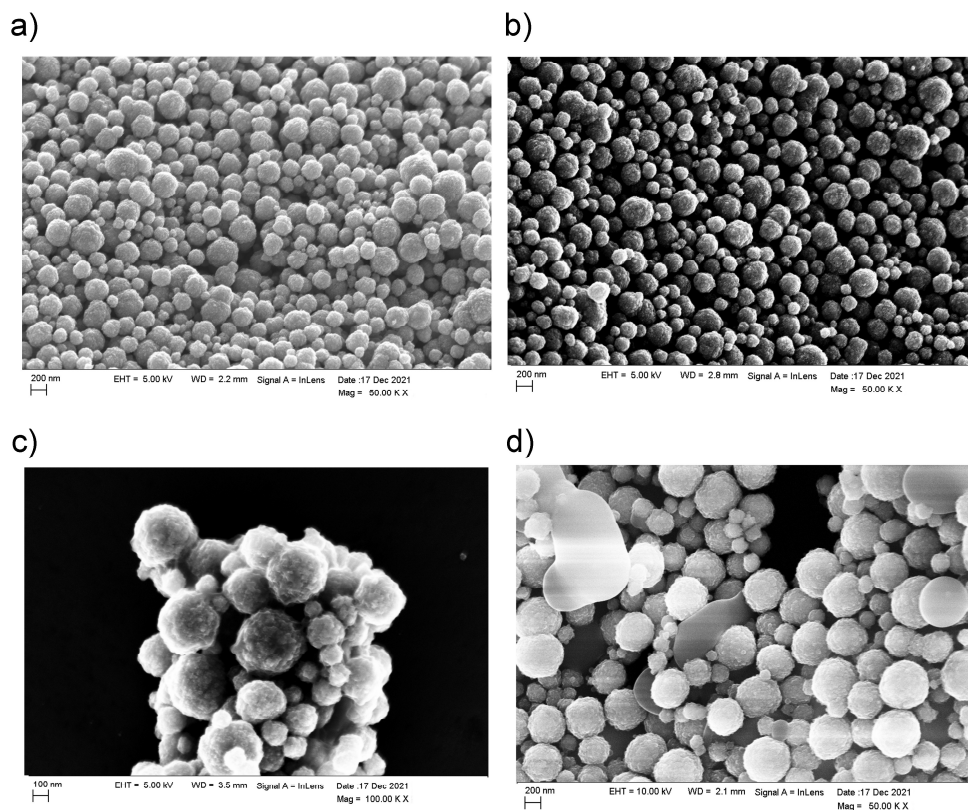


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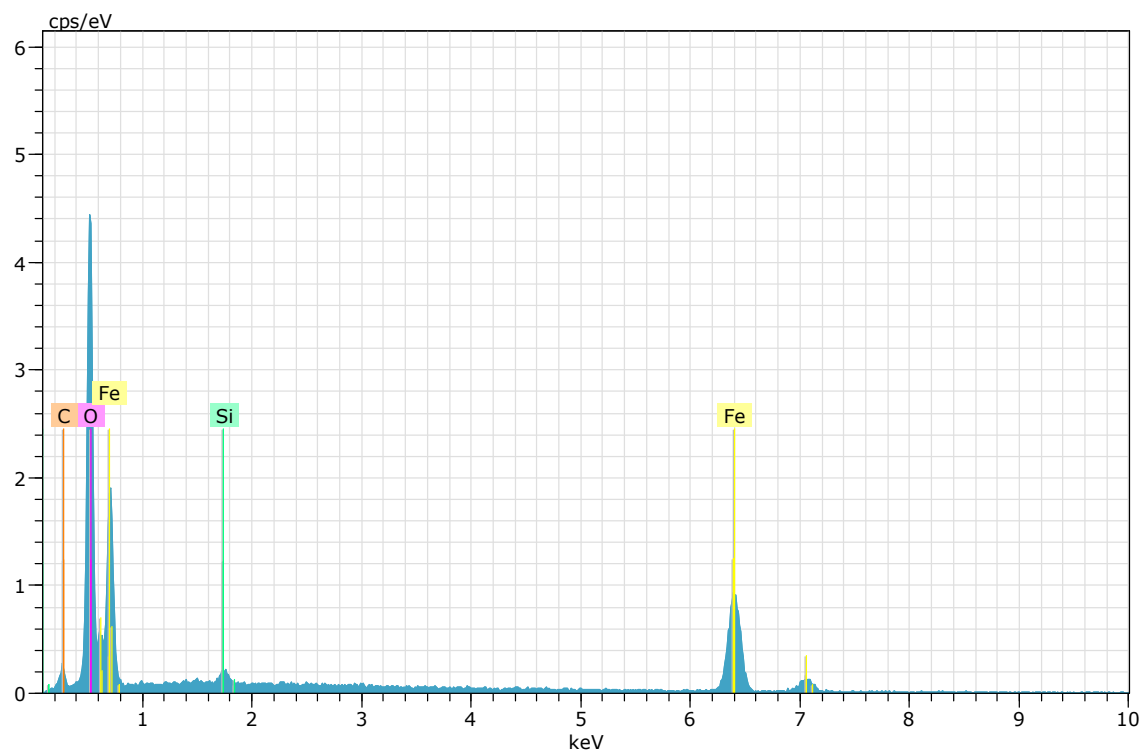


**Figure S3.** Isoelectric point (pI) distribution associated with the co-enriched peptides for the cotton and polymeric materials M1-M17.

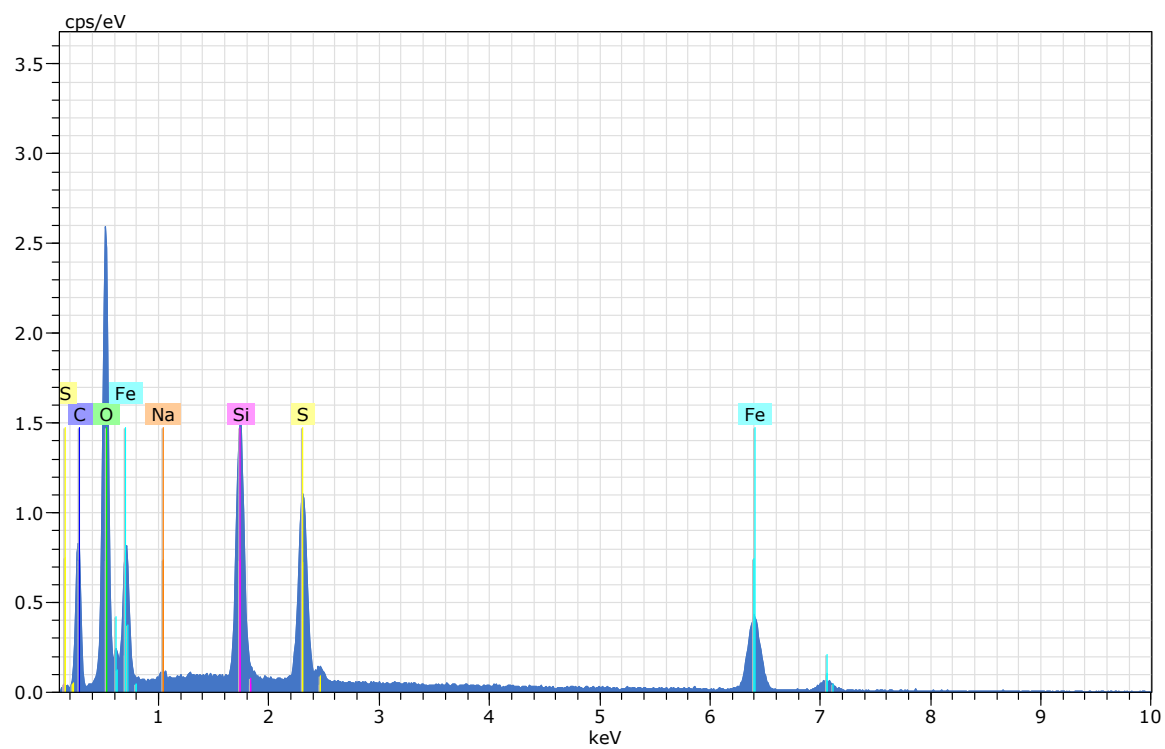




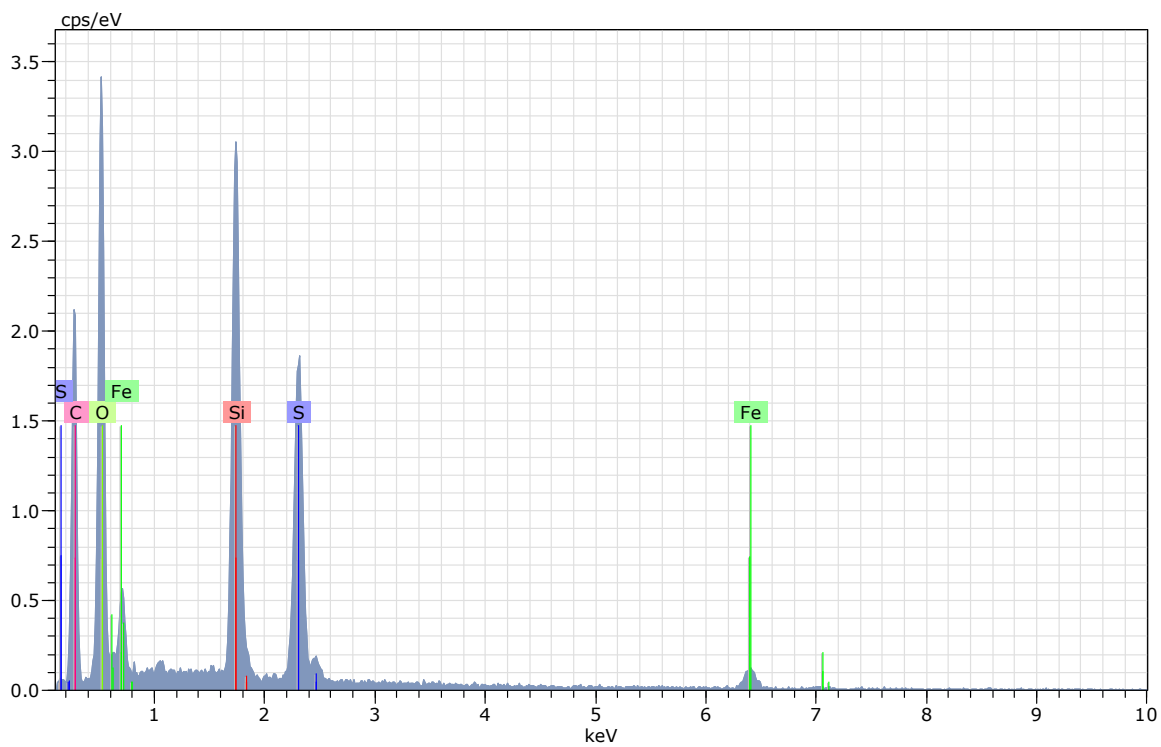
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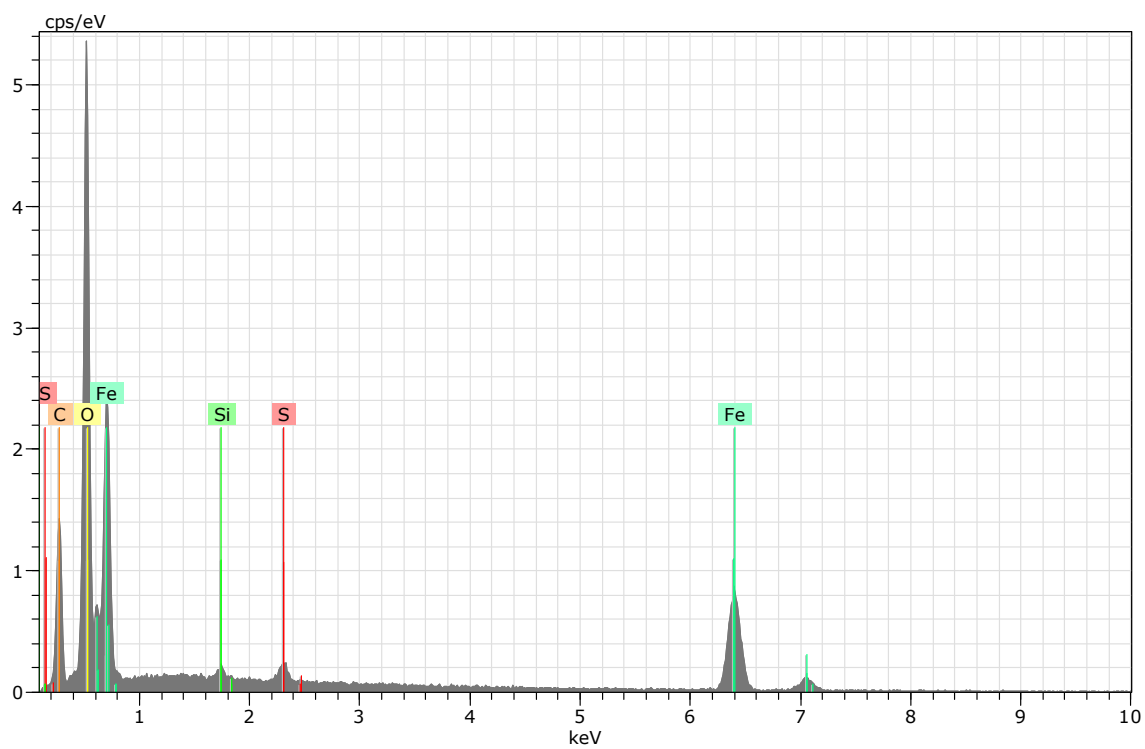
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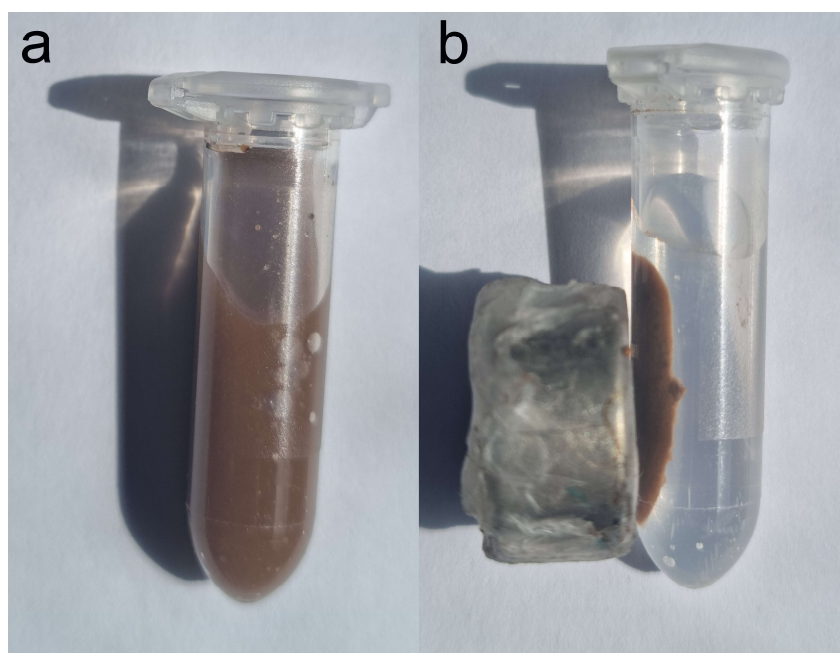
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