Biorefinery approach to the extraction of bioactive compounds from Brewer’s Spent Grain (BGS)

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Flow diagram for integral Brewer’s Spent Grain (BSG) valorization

Supercritical CO2 extraction of BSG. Extraction curves and modelling

Characterization of scCO2 extracted BSG oil

Functional quality of scCO2 extracted BGS oil

<table>
<thead>
<tr>
<th>SFE Temperature (°C)</th>
<th>40 ºC</th>
<th>60 ºC</th>
<th>80 ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFE Pressure (MPa)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20</td>
<td>20.0</td>
<td>20.0</td>
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<tr>
<td>30</td>
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<tr>
<td>40</td>
<td>40.0</td>
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<td>40.0</td>
</tr>
</tbody>
</table>

PUFA/SFA*: 2.04 2.22 2.08 2.22 2.11 2.04 2.03 2.00 1.99
H/H*: 2.81 3.13 2.87 3.07 2.92 2.82 2.81 2.76 2.77
AI*: 0.35 0.31 0.34 0.32 0.34 0.35 0.35 0.36 0.36
TI*: 0.55 0.49 0.54 0.51 0.53 0.56 0.56 0.56 0.56

* PUFA/SFA: Ratio of polyunsaturated/saturated fatty acids. H/H: Hypocholesterolemic/hypercholesterolemic Index. AI: Atherogenicity index. TI: Thrombogenicity Index

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