



Recovery of phenolics from apple peels using CO₂+ethanol extraction: Kinetics and antioxidant activity of extracts

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Titre	Recovery of phenolics from apple peels using CO ₂ +ethanol extraction: Kinetics and antioxidant activity of extracts
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Auteur	Massias, Audrey [1], Boisard, Séverine [2], Baccaunaud, Michel [3], Leal-Calderon, Fernando [4], Subra-Paternault, Pascale [5]
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Mots-clés	Antioxydant [6], Apple peel [7], Phenolics [8], Supercritical extraction [9]
Résumé en anglais	<p>Subcritical extraction (SFE) of dry and ground Golden delicious peels (30g) was investigated at 25 MPa and 50 ° C using CO₂ and ethanol (96%) in 75:25 mol ratio. As for conventional ethanol or methanol/acetone/water extraction, nine phenolics were identified in SFE-extracts including the sugar- based phloridzin and quercetin derivatives. Extraction kinetics of the nine phenolics and of the global yield were monitored via collection of fractions that were also characterized for their antioxidant activity (ABTS antiradical activity). Kinetics showed a constant extraction rate up to 1.1 kg of fluid and a decreasing rate afterwards, but the matrix was not exhausted after 3 h of extraction. Besides the classical continuous flow protocol, SFE was performed by introducing static periods between the dynamic collect of fractions. Static periods did not yield significant improvement in the overall yield and in the individual yield of most phenolics. Increasing the matrix loading did not improve the recovery either. Conversely, extractions from 15 g provided the highest phenolics yield of 800 mg/100 gdry peels . For extracts tested for antioxidant capacity (30 g loading), values up to 5-6 mg Equivalent Ascorbic Acid/gextract were obtained. Activities were positively correlated with phenolics concentration in fractions only for static conditions.</p>
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Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=17330](http://okina.univ-angers.fr/publications?f[author]=17330)
- [2] <http://okina.univ-angers.fr/severine.boisard/publications>
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=17331](http://okina.univ-angers.fr/publications?f[author]=17331)
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- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=1472](http://okina.univ-angers.fr/publications?f[keyword]=1472)
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