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Special issue

Tannins and Related Polyphenols (Part 2)

Editors: Daneel Ferreira, Georg Gross, Herbert Kolodziej and Takashi Yoshida

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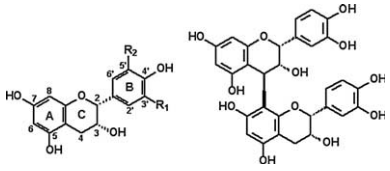
Editorial **pp 2124–2126**

FULL PAPERS

Proanthocyanidin biosynthesis – still more questions than answers? **pp 2127–2144**

De-Yu Xie, Richard A. Dixon*

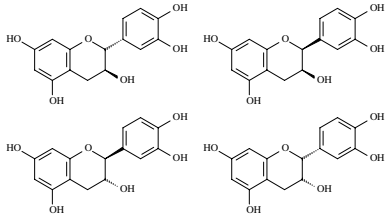
In spite of important breakthroughs in our understanding of the biosynthesis of the major building blocks of proanthocyanidins, (+)-catechin and (−)-epicatechin, important questions still remain to be answered as to the exact nature of the molecular species that undergo polymerization, and the mechanisms of proanthocyanidin assembly.



Stereoselective synthesis of monomeric flavonoids **pp 2145–2176**

Jannie P.J. Marais*, Daneel Ferreira, Desmond Slade

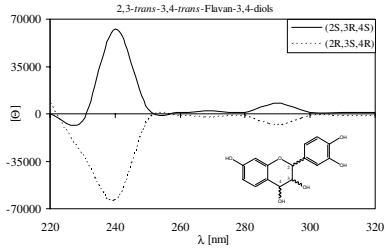
Stereoselective synthesis of monomeric flavonoids and isoflavonoids are discussed and included chalcone epoxides, α- and β-hydroxydihydrochalcones, dihydroflavonols, flavan-3-ols, flavan-3,4-diols, isoflavans and pterocarpans.



Circular dichroism, a powerful tool for the assessment of absolute configuration of flavonoids **pp 2177–2215**

Desmond Slade*, Daneel Ferreira, Jannie P.J. Marais

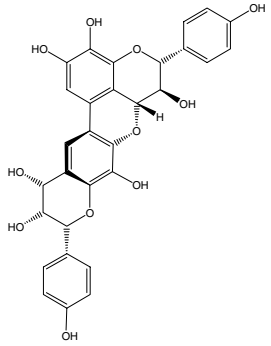
Application of circular dichroism to definition of the absolute configuration of flavanones, dihydroflavonols, flavan-3-ols, flavan-4-ols, flavan-3,4-diols, flavans, isoflavans, isoflavanones, pterocarpans, neoflavonoids, and 4-arylflavan-3-ols is discussed.



Heterogeneity of the interflavanyl bond in proanthocyanidins from natural sources lacking C-4 (C-ring) deoxy flavonoid nucleophiles **pp 2216–2237**

Daneel Ferreira*, Jannie P.J. Marais, Desmond Slade

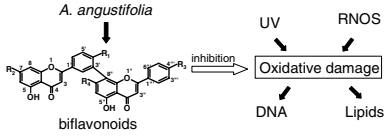
The structures of pro-/leuco-anthocyanidins with bonding positions other than those linking flavan-3-ol moieties with resorcinol- and/or phloroglucinol-type A-rings are discussed.



Biflavonoids from Brazilian pine *Araucaria angustifolia* as potentials protective agents against DNA damage and lipoperoxidation **pp 2238–2247**

Lydia F. Yamaguchi, Daniel G. Vassão, Massuo J. Kato, Paolo Di Mascio*

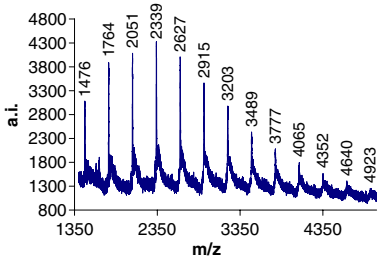
Biflavonoids from *Araucaria angustifolia* were able to protect against DNA damage and lipoperoxidation promoved by reactive species (RNOS). The $^1O_2$ quenching rate constant using the time-resolved near infrared luminescence technique was also determined.



MALDI-TOF mass spectrometry of oligomeric food polyphenols **pp 2248–2263**

Jess D. Reed*, Christian G. Krueger, Martha M. Vestling

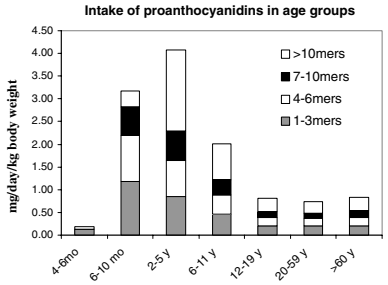
This review discusses the application of matrix assisted laser desorption-time of flight mass spectrometry (MALDI-TOF MS) to characterize the structural heterogeneity food polyphenols (tannins).



Occurrence and biological significance of proanthocyanidins in the American diet **pp 2264–2280**

Ronald L. Prior*, Liwei Gu

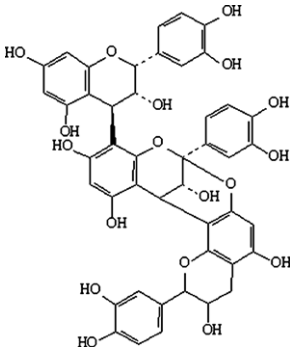
The occurrence, content in foods and daily intake of proanthocyanidins and health effects were reviewed.



A-type cranberry proanthocyanidins and uropathogenic bacterial anti-adhesion activity **pp 2281–2291**

Amy B. Howell*, Jess D. Reed, Christian G. Krueger, Ranee Winterbottom, David G. Cunningham, Marge Leahy

Cranberry juice cocktail containing A-type proanthocyanidins exhibited bacterial anti-adhesion activity in human urine when compared to foods containing B-type proanthocyanidins. Proanthocyanidin linkage type and differences among general structural features may be contributing to anti-adhesion activity.



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* Corresponding author

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