Important notes:

Do **NOT** write outside the grey boxes. Any text or images outside the boxes **will** be deleted.

Do **NOT** alter the structure of this form. Simply enter your information into the boxes. The form will be automatically processed – if you alter its structure your submission will not be processed correctly.

Do not include keywords – you can add them when you submit the abstract online.

Title:

Physicochemical Properties of Alkali treated kappa-carrageenan.

Authors & affiliations:

Kushaal Raj[1], Roselyn Lata[1], David Rohindra[1*]
School of Biological and Chemical Sciences, Faculty of Science Technology and Environment, the University of the South Pacific, Private Mail Bag, Suva.
*corresponding author; Tele: (+679) 9946372 e: david.rohindra@usp.ac.fj

Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Kappa (κ)-carrageenan was extracted from the seaweed *Kappaphycus alvarezii*, grown in Fiji, using varying concentrations of potassium hydroxide (KOH) solution: 0.1 to 0.5 M. Increasing KOH concentration increased the yield of κ-carrageenan while the sulfate content, and the viscosity average molar mass decreased. κ-carrageenan solutions exhibited non-Newtonian fluid behavior. For the different alkali (0.1, 0.2, 0.3 & 0.5 M) treated κ-carrageenan, the critical gelling concentration was found to be 1.0, 0.8, 0.7 & 0.6 w/v % respectively at ambient temperature within 24 hrs. The activation energy of the viscous flow was found to decrease for the κ-carrageenan extracted with increasing alkali concentration. Young's modulus was found to increase for the κ-carrageenan gels extracted with increasing alkali concentration up to 0. 3 M after which a sharp decline in gel strength was observed. The melting temperature determined from Differential Scanning Calorimetry increased for gels extracted with higher KOH concentration.