

## Identification and Quantification of Three Xanthenes and Two Polyisoprenylated Benzophenones Simultaneously in fruit rind of Eight Garcinia Species via Validated UHPLC-PDA Method

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### Abstract

Xanthenes and polyisoprenylated benzophenones (PIBs) are two significant classes of plant secondary metabolites with a wide range of bioactivities. Garcinia species synthesize numerous xanthenes and PIBs. Till now no method available claiming simultaneous identification and quantification of three xanthenes,  $\alpha$ -mangostin,  $\beta$ -mangostin,  $\gamma$ -mangostin, and two PIBs, xanthochymol, isoxanthochymol. Methodology & Theoretical Orientation: A validated ultra-HPLC (UHPLC)-photodiode array (PDA) method for the simultaneous identification and quantification of five compounds in different extracts of eight Indian Garcinia species was developed. The compounds were separated on a Waters ACQUITY™ UPLC H-Class column using a mobile phase consisting of solvents 0.1% formic acid in water (A) and methanol (B) in gradient elution mode. The total run time was 9 min. Conclusion & Significance: From fruit rinds of eight Indian Garcinia species, namely Garcinia cambogia, G. cowa, G. indica, G. ioniceroides, G. mangostana, G. morella, G. pedunculata, and G. xanthochymus, extracts were prepared using solvents of varying polarity.

### Speaker Publications:

1. “Simultaneous Identification and Quantification of Three Xanthenes and Two Polyisoprenylated Benzophenones in Eight Indian Garcinia Species Using a Validated UHPLC-PDA Method”; Journal of AOAC International / (2019) Vol 102, Issue 5
2. “Comparative evaluation of antioxidant properties of extracts of fruit rinds of Garcinia species by in vitro assays”; Indian Journal of Horticulture / Vol 76 (2019) - Issue 2
3. “Ceriumoxide nanoparticles embedded thin-film nanocomposite nanofiltration membrane for water treatment” / Scientific Reports Vol 8,( 2018) – Issue 1.
4. Iron oxide (FeO) nanoparticles embedded thin-film nanocomposite nanofiltration (NF) membrane for water treatment /Separation and Purification Technology Vol 211 (2019).
5. Variation in Total Phenolics Content in Elite Germplasms of Indian Ginseng Withania somnifera (Ashwagandha)/ Journal of Pharmaceutical and Applied Chemistry /Vol 4 (2018) – Issue 1

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### Biography:

Premata Kumari, is Associate professor and Former head of the Applied Chemistry Department, S.V. National Institute of Technology, Surat, Gujarat, India. She has completed her PhD at the age of 27 years from University of Allahabad. Three research scholars awarded Ph.D degree and five are working currently under her supervision. On her credit she has about 10 book chapters and 50 research papers published in reputed peer reviewed journals. She has been serving as a reviewer for many journal of repute..