Antibacterial activity studies of the latex and the fruit hull of *Garcinia mangostana*

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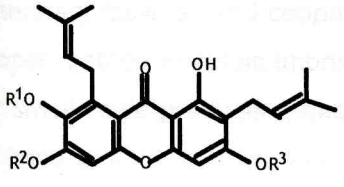
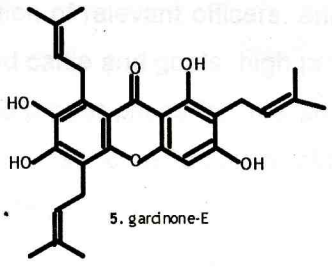
Methicillin resistant *Staphylococcus aureus* (MRSA) infections have been increasing worldwide in recent years. Recently we reported the antibacterial activity of α-mangostin and γ-mangostin isolated from *Garcinia mangostana* against 13 MRSA strains and control *S. aureus* (NCTC 6571). In our present work antibacterial activity of pure compounds [α-mangostin (**1**) and its' cyclised product (**6**), β-mangostin (**2**), γ -mangostin (**3**), methoxy-β-mangostin (**4**) and garcinone-E (**5**)] and extracts from *G. mangostana*, were tested against seventeen MRSA strains isolated from hospitals in Sri Lanka and five control strains *S. aureus* (NCTC 6571), *Enterococci fecalis* (NCTC 12697), *Pseudomonas* (NCTC 10662), *Klebsiella* (Pamilo Water strain) PW and *Escherichia coli* (NCTC 10418) using a disk diffusion method. Of them other than methanol extracts of fruit hull and latex, compounds **1**,**3** and **6** showed activity against *S. aureus* (NCTC 6571) at MICs 1.04, 4.16 and 16.66 µg/mL respectively. Further, **1** and **3** showed activity against *E. fecalis* (NCTC 12697) at MICs 1.04 and 4.16 µg/mL respectively.

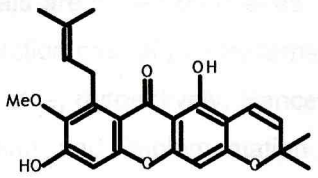
The latex of *G. mangostana* consists of more than 75% of xanthones which have strong antibacterial (anti MRSA and VRE), anti-inflammatory, antifungal and a number of other biological activities. Hence the presence of the above highly bioactive compounds in large quantities in the plant should be the causative factor for *G. mangostana*'s medicinal value in indigenous medicine. Therefore, above antibacterial compounds should be investigated further in appropriate *in vivo* models.



1. α-mangostin R^1=Me, R^2=R^3=H
2. β-mangostin R^1=R^3=Me, R^2=H
3. γ-mangostin R^1=R^2=R^3=H
4. β-mangostin-OMe R^1=R^2=R^3=Me



5. garcinone-E



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