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(54) Title: PHARMACEUTICAL, THERAPEUTIC, AND DIETARY COMPOSITIONS DERIVED FROM *LAGERSTROEMIA SPECIOSA L.* PLANT

(57) Abstract: The present invention relates to pharmaceutical, therapeutic, and dietary compositions derived from leaf of the *Lagerstroemia speciosa L.* plant and the novel extraction processes used to produce these controlled blends of varying composition with respect to corosolic acid, gallotannins, ellagitannins, and valoneic acid dilactone. Embodiments of the invention include an approximately 15.5% to about 98.5% mixture of a corosolic acid rich banaba leaf extract in a tannic acid enriched base for novel combinations for pharmaceutical, therapeutic and/or dietary compositions that yield healthful benefits. Some embodiments of the invention do not include corosolic acid, or include it at a low concentration in combination particularly enriched in other compounds. Such extract compositions that do not contain corosolic acid, are the product of extraction process that yield controllably increased ratios of gallotannins, ellagitannins, and valoneic acid dilactone. Such compositions, both those containing corosolic acid and those lacking corosolic acid are efficacious in effecting control of blood glucose levels, and can be further enhanced in their efficacy by post production and formulation strategies that utilize nanotechnological approaches, targeted deliver enteric coatings, and specialized microenacapsulations. With respect to the individual compounds of these extract compositions, such compounds show combined effects that are both additive and synergistic regarding improved glucose cellular uptake, reduction in blood glucose, insulin efficiency and the simultaneous reduction in assimilation of sugars and starches, and weight loss. Further, additive and synergistic effects are a potential benefit when these compositions are combined with other second therapeutic agents.

WO 2006/069385 A3