Abstract Submitted
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Spectroscopic analysis of urinary calculi and inhibition of their growth[1] FELICIA MANCIU, WILLIAM DURRER, JAYESH GOVANI, LAYRA REZA, LUIS PINALES, Department of Physics, University of Texas at El Paso, El Paso, Texas 79968 — We present here a study of kidney stone formation and growth inhibition based on a traditional medicine approach with *Aquatica Lour (RAL)* herbal extracts. Kidney stone material systems were synthesized *in vitro* using a simplified single diffusion gel growth technique. With the objective of revealing the mechanism of inhibition of calculi formation by *RAL* extracts, samples prepared without the presence of extract, and with the presence of extract, were analyzed using Raman, photoluminescence, and XPS. The unexpected presence of Zn revealed by XPS in a sample prepared with *RAL* provides an explanation for the inhibition process, and also explains the dramatic reflectance of incident light observed in attempts to obtain infrared transmission data. Raman data are consistent with the binding of the inhibitor to the oxygen of the kidney stone. Photoluminescence data corroborate with the other results to provide additional evidence of Zn-related inhibition.

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Felicia Manciu
The University of Texas at El Paso

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