



RCSI

RCSI Bahrain

RSS PROJECT SUMMARY YEAR 2017

RCSI DEVELOPING HEALTHCARE LEADERS WHO MAKE A DIFFERENCE WORLDWIDE

Project Title	Preparation of Sunscreen lotions Using Natural Substances
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Project Summary	
<p>Sunlight is a portion of the electromagnetic radiation given off by the Sun, contains infrared, visible, and ultraviolet photons. The ultraviolet (UV) radiations are shorter in wavelength and higher in energy than visible light. Generally UV divided into three different ranges: UV-A, UV-B, and UV-C. The UV radiations reaches the earth's surface consist of UVB and UVA photons. The longer wavelength UVA rays penetrate intensely into skin; they produces free radicals can causes a damage to DNA and may lead to premature skin aging and skin cancer. UV-B radiation does not penetrate the skin as far as UV-A rays, but it contains much more energy. UV-B can cause tanning and painful sunburn.</p> <p>A sunscreen is product used for stopping the UV photons to reach the skin and inflict damage. It contains organic sunscreen molecules and nano grains that absorb UV and inorganic pigments that absorb, scatter and reflect UV.</p> <p>The term SPF that appears on sunscreen labels stands for Sun Protection Factor, but it is really a sunburn protection factor. Products with a higher SPF allow fewer of the photons that produce sunburn to strike the skin. As mentioned above the sunburn is primarily a UVB effect, it is possible for a sunscreen product to deliver high SPF while allowing a significant percentage of the incident UVA photons to reach the skin. To deliver true broad spectrum protection, products must also block a significant fraction of the UVA photons.</p> <p>In this project, determine the effectiveness of (Protection products) sunscreen lotions found in the market and compared with formulate lotion produced by ourselves using natural substances. These natural substance will be examined for blocking the Sun's ultraviolet (UV) radiation in particular UVB using an Integrating sphere setup and to evaluate the penetration depth of UV-A penetration in our formulated lotions</p>	

Subjected to Ethics Approval	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
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Primary References	<ol style="list-style-type: none">1. Balakrishnan K. P. & Narayanaswamy N., " Botanicals as sunscreens: Their role in the prevention of photoaging and skin cancer" International Journal of Research in Cosmetic Science 2011; 1 (1), pp. 1-122. Francis P. Gasparro, Mark Mitchnick and J. Frank Nash" A Review of Sunscreen Safety and Efficacy" Photochemistry and Photobiology, 1998, 68(3): 243-256.
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