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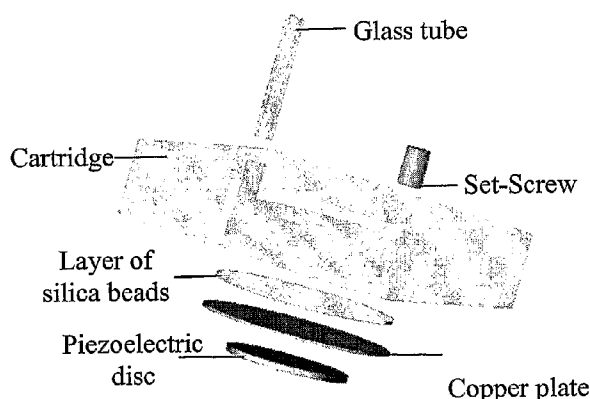
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(54) Title: METHOD AND DEVICE FOR THE TREATMENT OF BIOLOGICAL SAMPLES



(57) Abstract: A device for sample tissue disruption and/or cell lysis comprising: a piezoelectric material; and at least a second material in contact with the piezoelectric material; and wherein the second material has an uneven surface on an opposite side to that in contact with the piezoelectric material. The device may be made by assembling at least three layers and membranes for the valves and pumps. The piezoelectric material is actuated by an external voltage source to generate cavitation, which disrupts tissue and/or lyses cells, in particular by a modulated alternative external voltage. The invention further provides a method of disrupting tissue and/or lysing cells in a device comprising the steps: loading a sample and reagents; actuating a piezoelectric material; obtaining disrupted tissue and/or lysed cells; and recovering the eluate. Also provided is a piezoelectric device comprising a piezoelectric material in contact with a second material, and wherein the second material has an uneven surface on an opposite side to that in contact with the piezoelectric material.

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