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**Preliminary comparative studies of *Thermus aquaticus* resilience to thermal and microwave heat input** KONRAD KABZA, Southeastern Louisian University, KAREN GEORGE, Southeastern Louisiana University, STELLA VON MEER, ARMIN KARGOL, Loyola University New Orleans — *Thermus aquaticus* was grown using existing ATCC protocol. Bacteria were cultured in large batches and each batch partitioned into usable 250 mL aliquots. These samples were then tested using identical parallel experiments, one heated with a traditional thermal heat source, while the other was irradiated with a 2.45 GHz conventional microwave oven. Relative growth of the *Thermus aquaticus* was measured using UV visible spectroscopy at 400 nm. Multiple runs of the same experiments were averaged and the growth data for two modes of energization plotted. A unique low microwave exposure apparatus with a flow-through cell will be described and the entire experimental setup discussed.

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