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**Figure 1.** Use of paper-based TXTL for teaching gene circuits. **(A**) Scheme (on the left depicts circuit of T7 RNA polymerase driving translation of sfGFP. Its physical implementation on the paper-TXTL is on the right. TXTL-reaction is started on the ’inducer’ paper unit by soaking it with a buffer, and then flow of the ‘inducer’ (T7pol) is provided by applying more buffer onto the ’inducer’ unit which will diffuse to the dry ‘reporter’ paper piece. **(B)** Studying principles of three-gene circuit (*lacI*-operon) with regulatory scheme presented on the left. The right diagram shows wet circuits of connected paper pieces with either freeze-dried TXTL-mixes (grey boxes) or impregnated with reagents (white boxes).