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(54) **Title:** REAGENT COMPOSITIONS, METHODS, CARTRIDGES, AND SYSTEMS

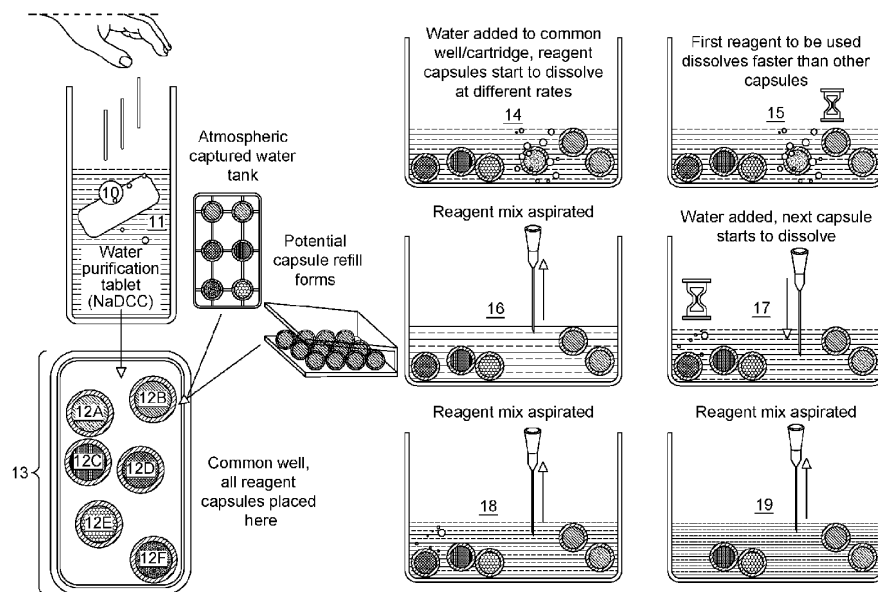


FIG. 1

(57) **Abstract:** The present disclosure relates to compositions including a shell surrounding an interior compartment, wherein said interior compartment comprises one or more reagent and wherein said shell releases said interior compartment when said shell is exposed to a first release condition, wherein said interior compartment releases said one or more reagent when said interior compartment is exposed to a second release condition, and wherein said first release condition is different from said second release condition. Also disclosed are compositions including a dissolvable first shell, and a dissolvable second shell, the second shell comprising one or more reagent. Also disclosed are methods for controlling release of one or more reagent using the compositions described herein. The present disclosure further relates to cartridges that include a reagent reservoir including the compositions described herein. Also disclosed are systems for controlling release of one or more reagent including the compositions described herein.

[Continued on next page]

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