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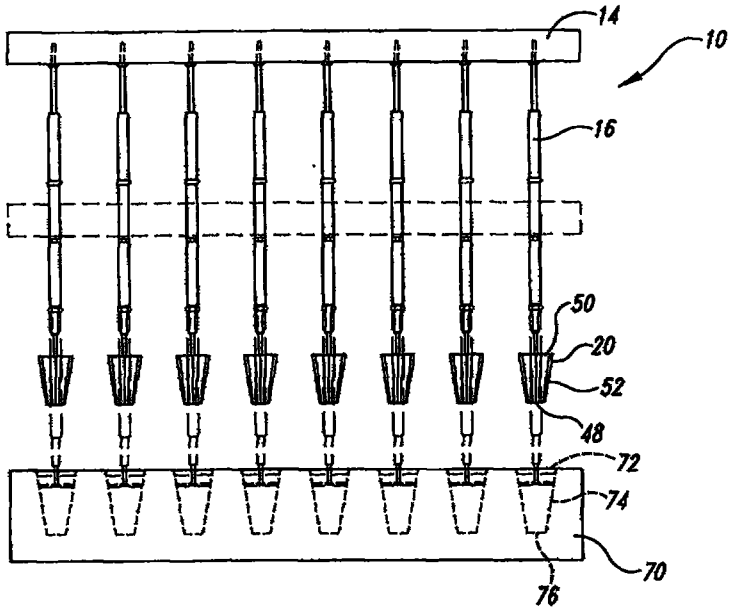
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(57) Abstract

Solid–phase assays have provided a powerful approach to the analysis of biomolecules in medical diagnosis and in basic research. Solid–phase nucleic acid hybridization methods, for example, have been applied to analysis of genetic polymorphisms, diagnosis of genetic disease, cancer diagnosis, detection of viral and microbial pathogens, screening of clones, and ordering of genomic fragments. A new solid–phase sample–retaining tip provides improved procedures for synthesizing or detecting a biomolecule. These tips can be used to devise sample–retaining assemblies, which in turn, can be combined to form arrays of solid–phase sample–retaining assemblies useful in automated processes. The tips may be connectable to a spring biased support pin and also contain a chemical layer coating said tip to which a biomolecule is bindable.