



FIG. 1

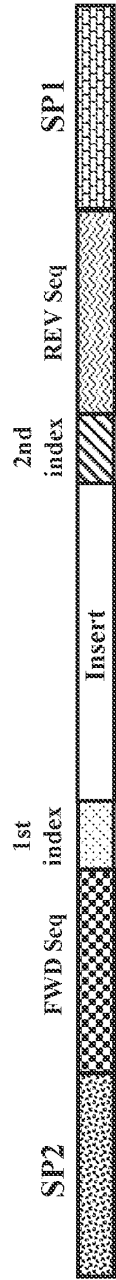


FIG. 2

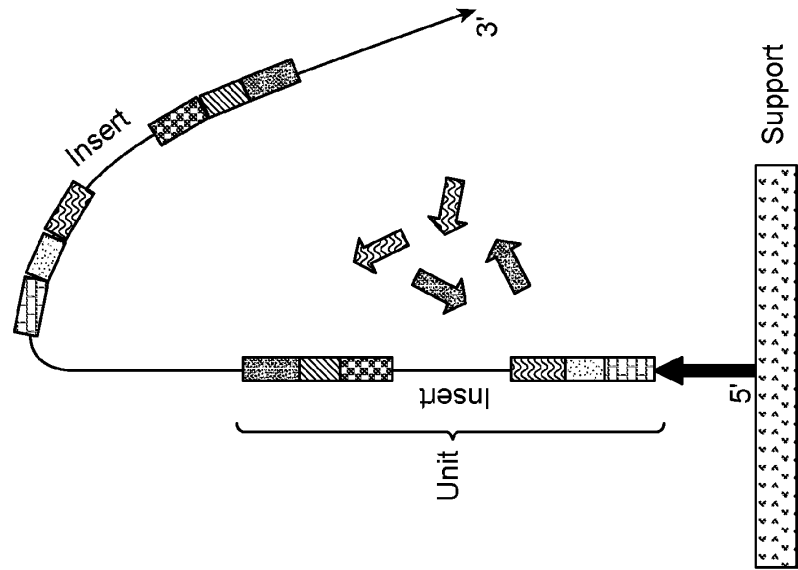


FIG. 3A

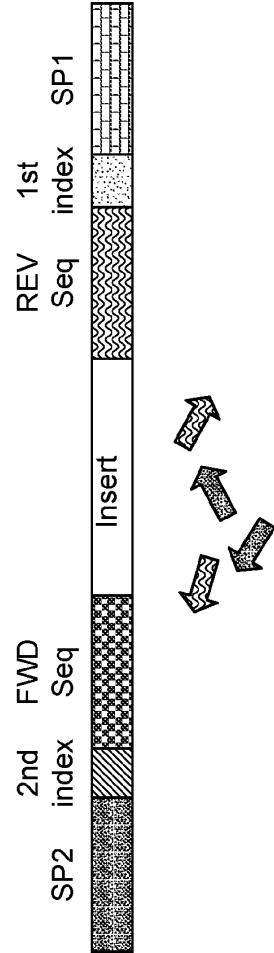


FIG. 3B

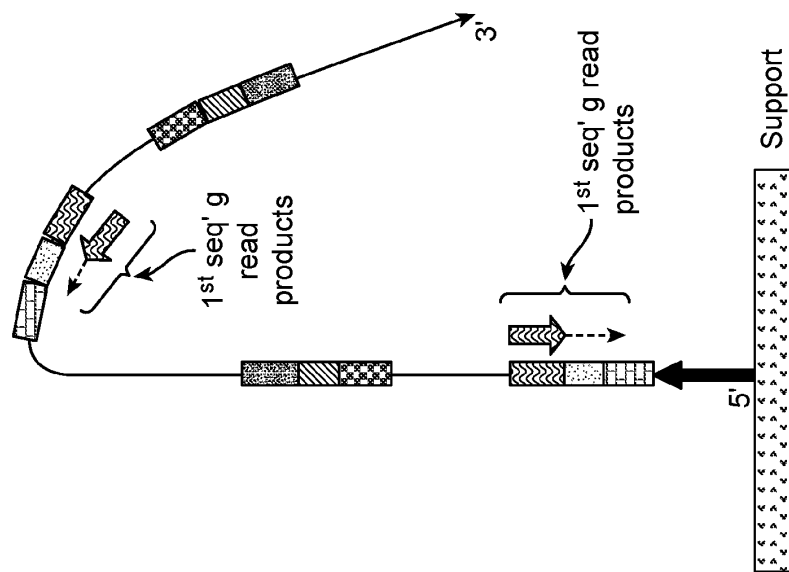


FIG. 4A

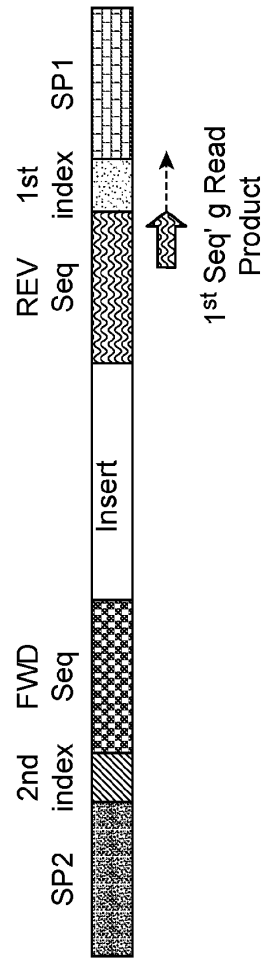


FIG. 4B

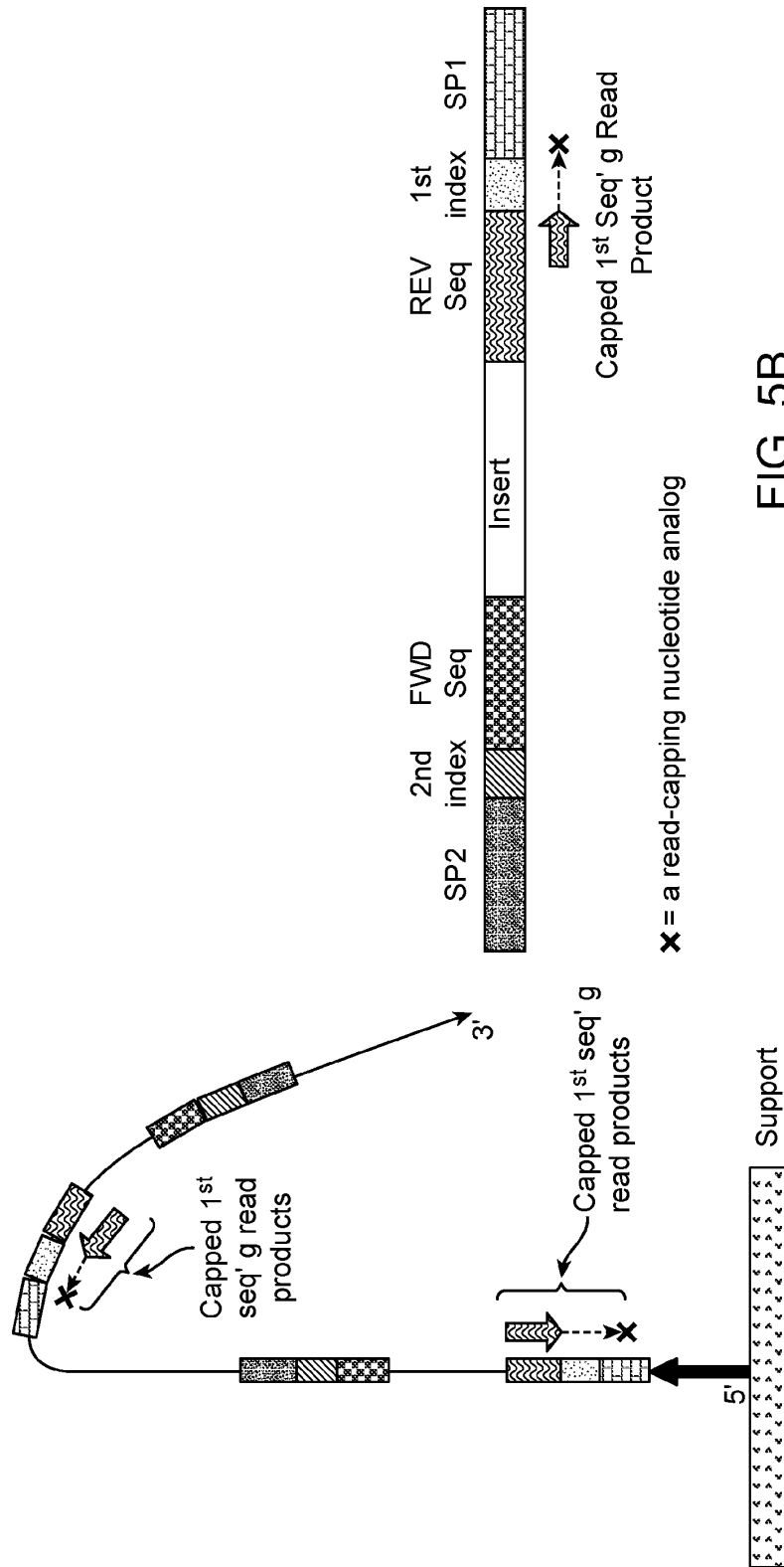


FIG. 5B

FIG. 5A

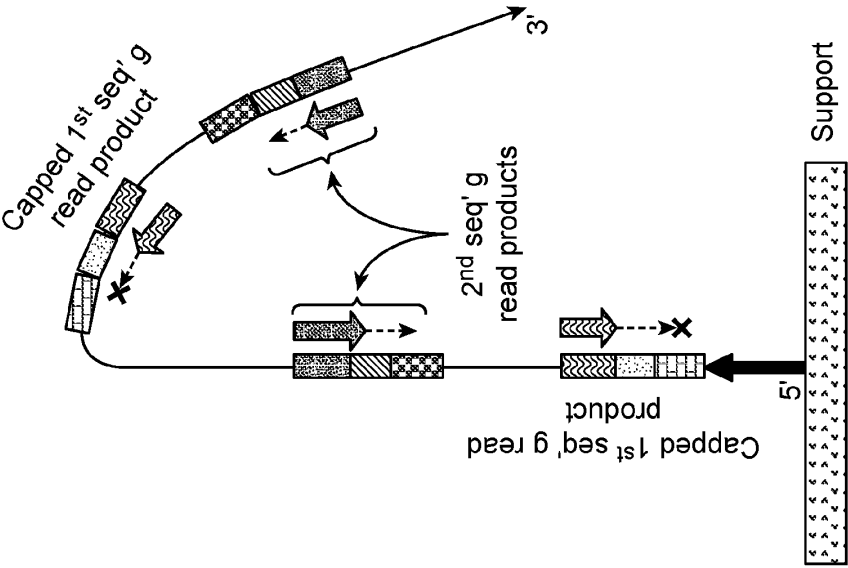


FIG. 6A

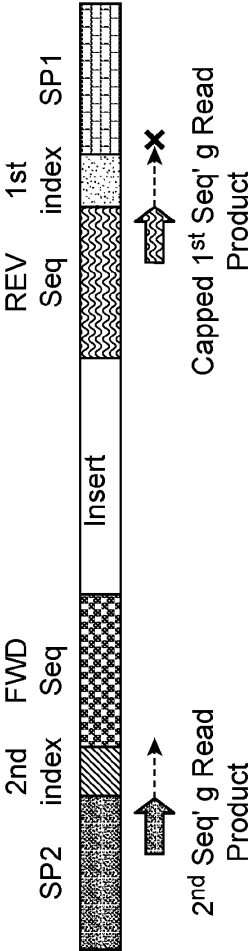


FIG. 6B

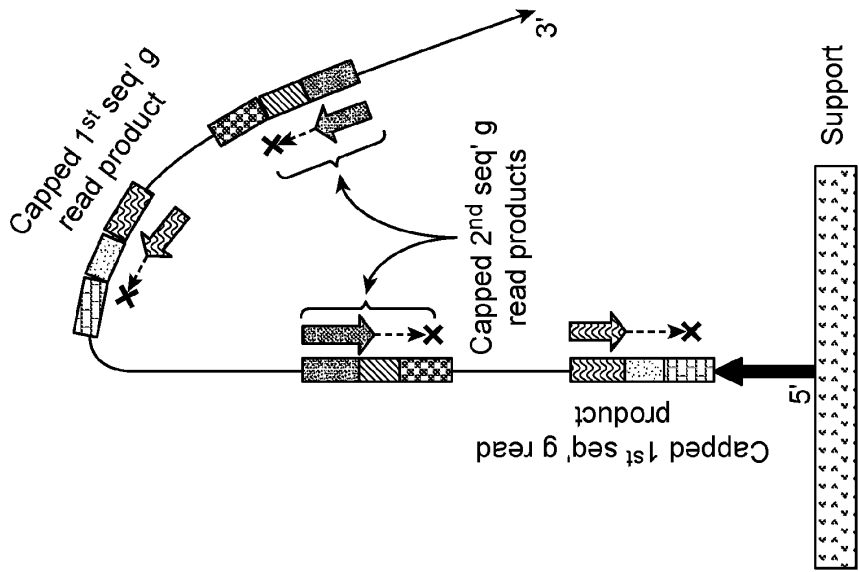


FIG. 7A

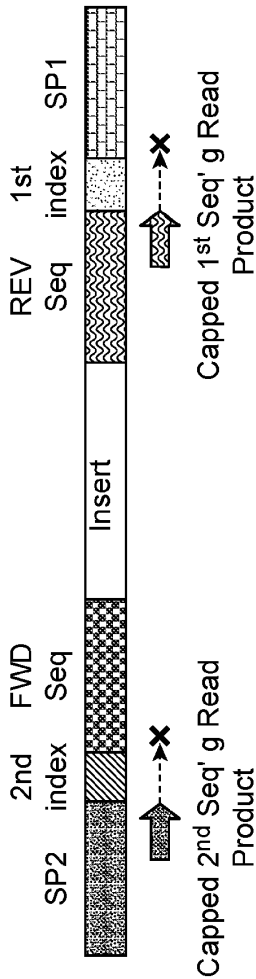


FIG. 7B

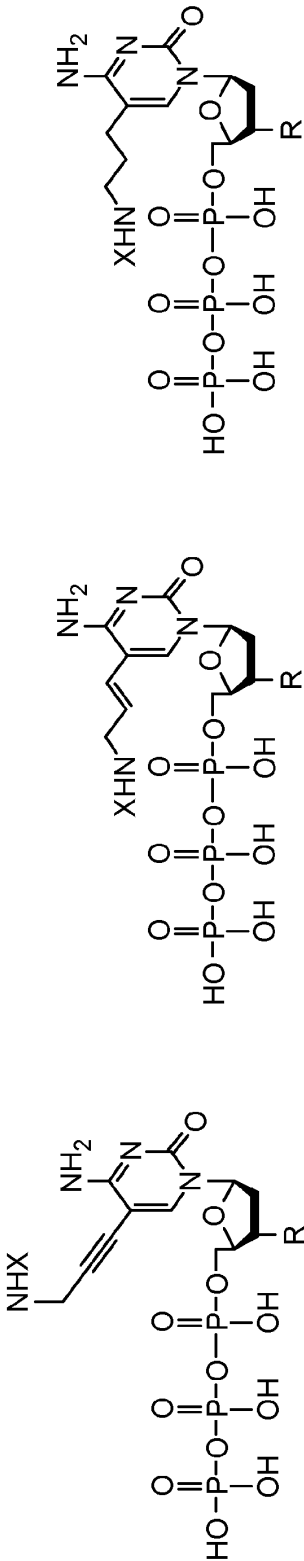


FIG. 8A

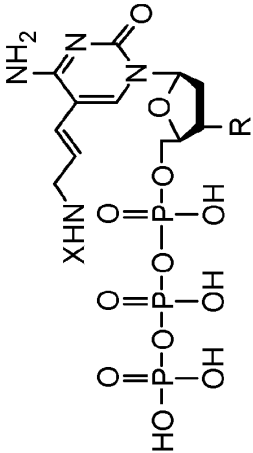


FIG. 8B

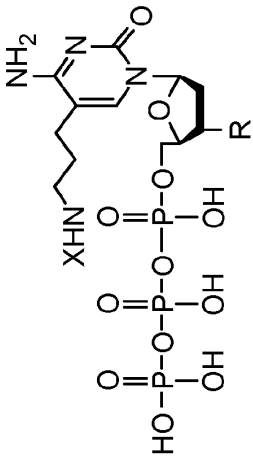


FIG. 8C

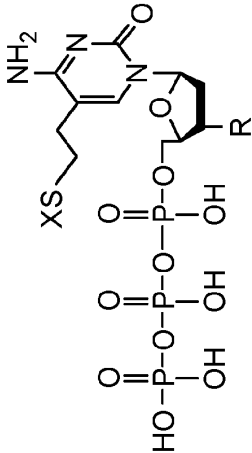


FIG. 8D

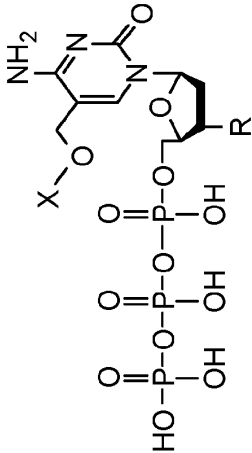


FIG. 8E

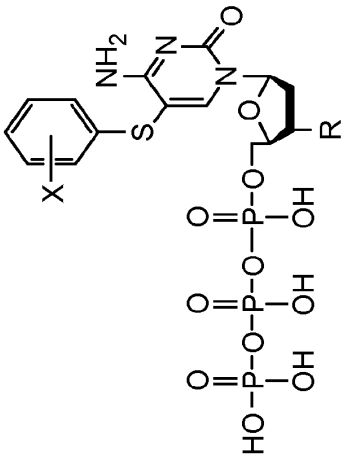


FIG. 8F

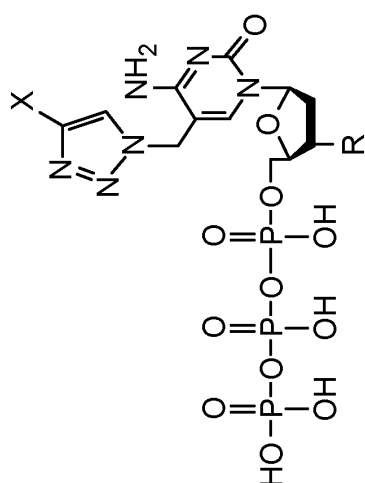


FIG. 8H

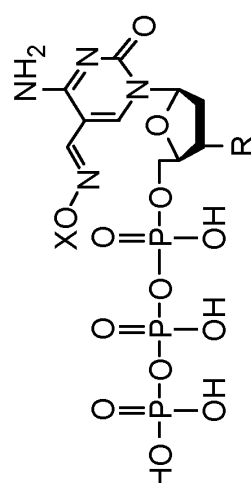


FIG. 8J

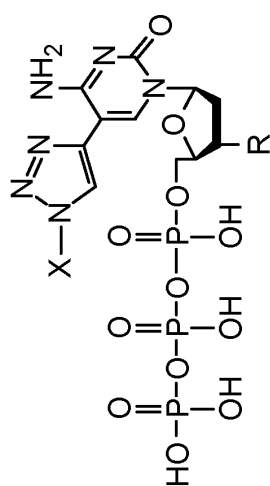


FIG. 8G

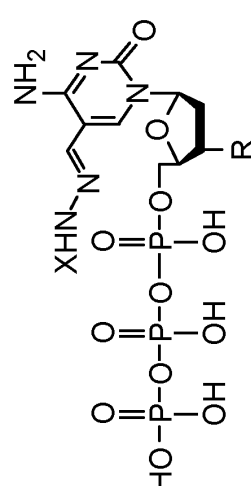


FIG. 8I

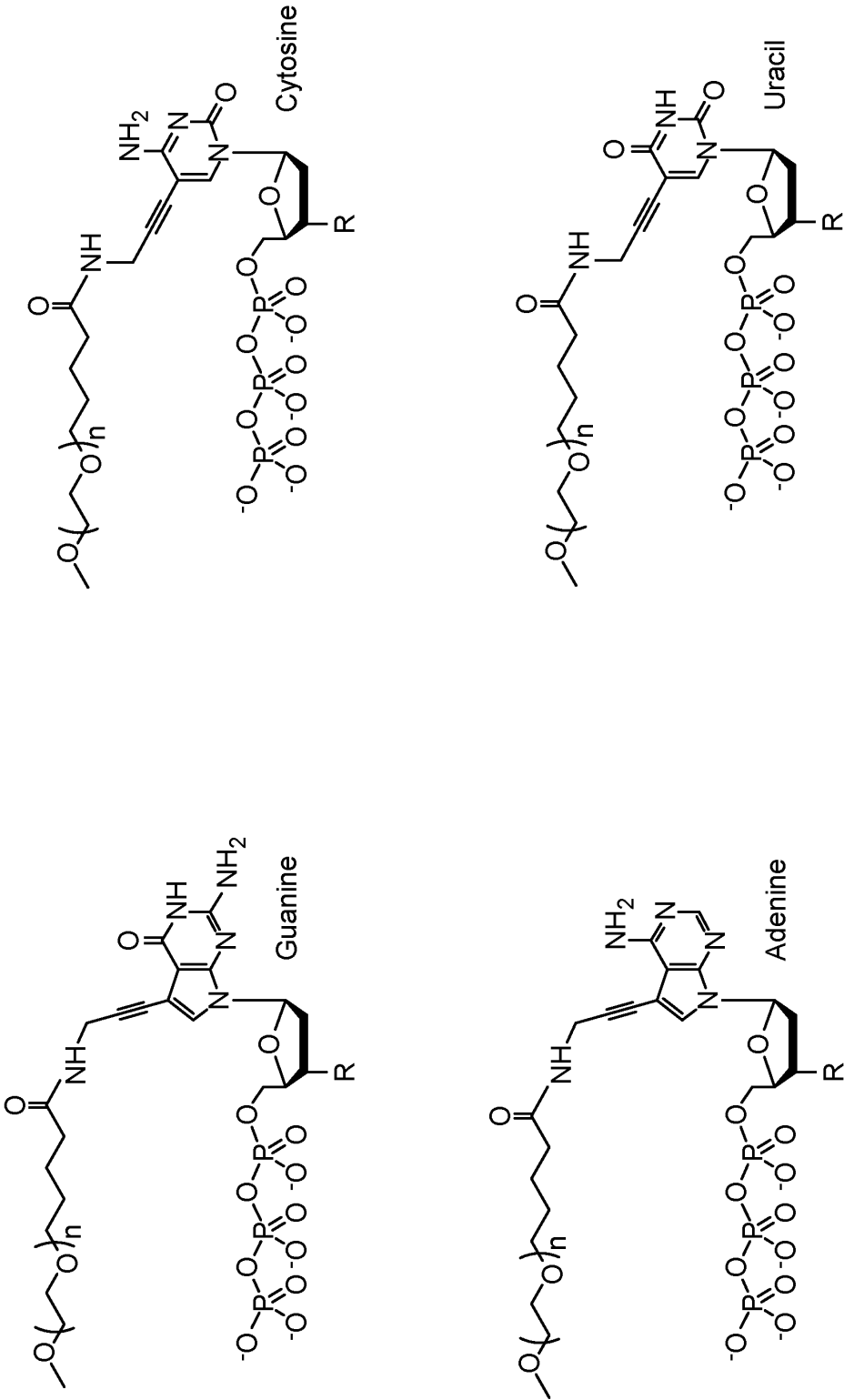


FIG. 9

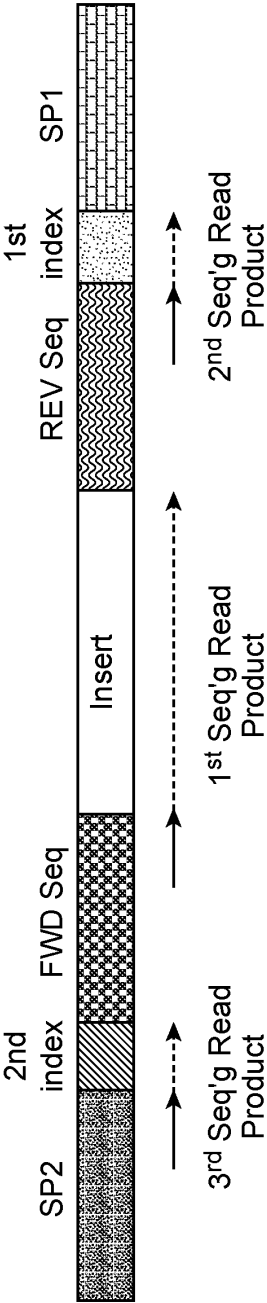


FIG. 10

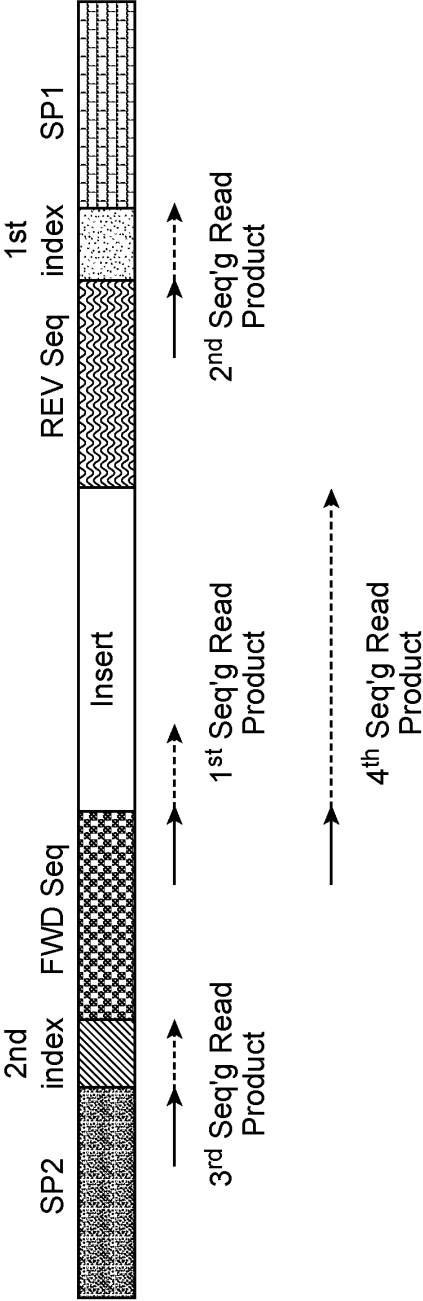


FIG. 11

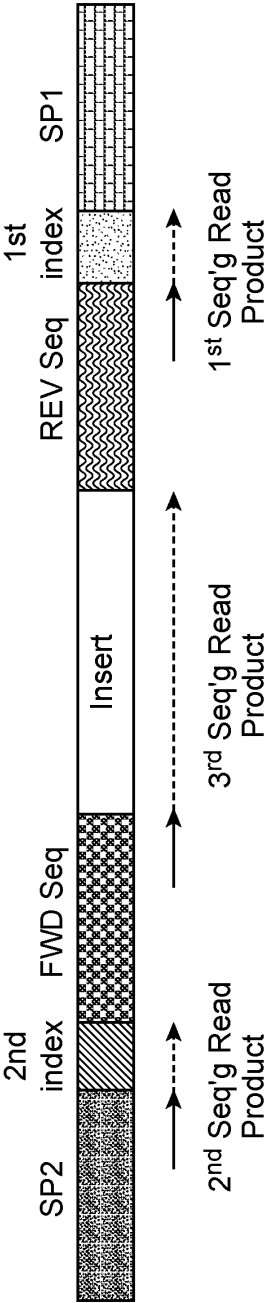


FIG. 12

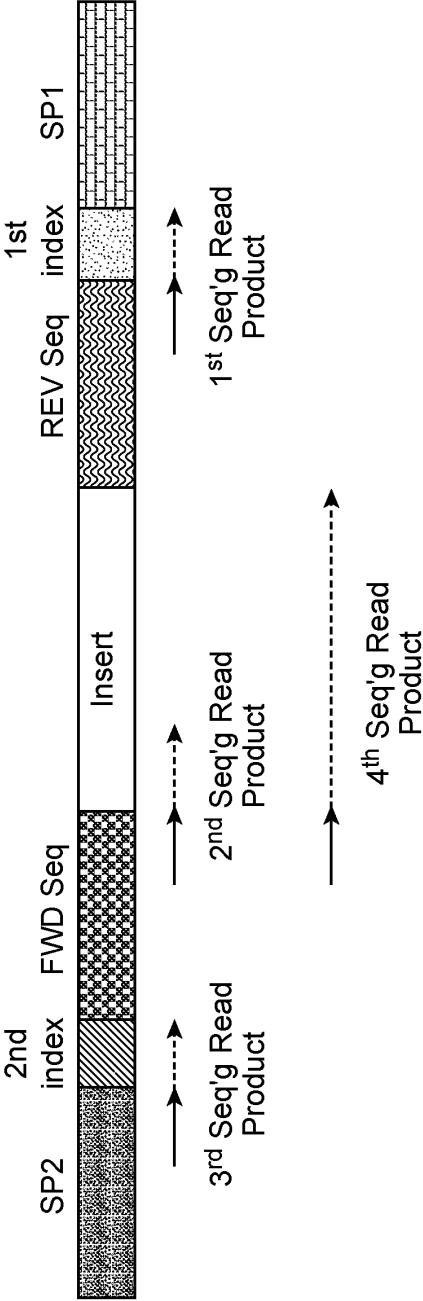


FIG. 13

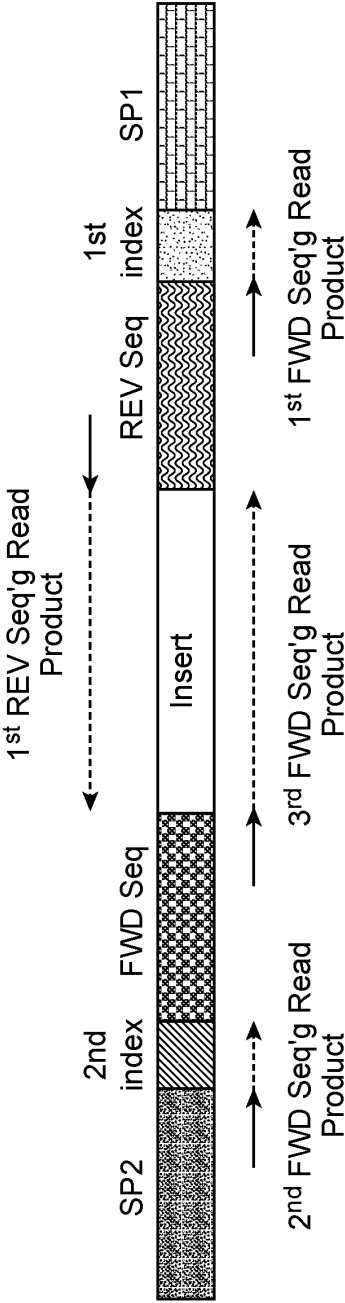


FIG. 14

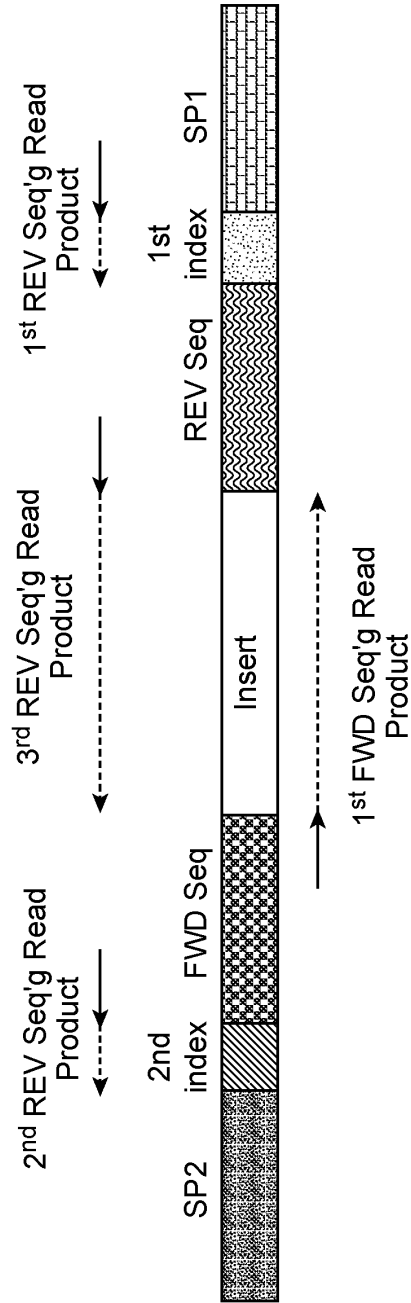


FIG. 15

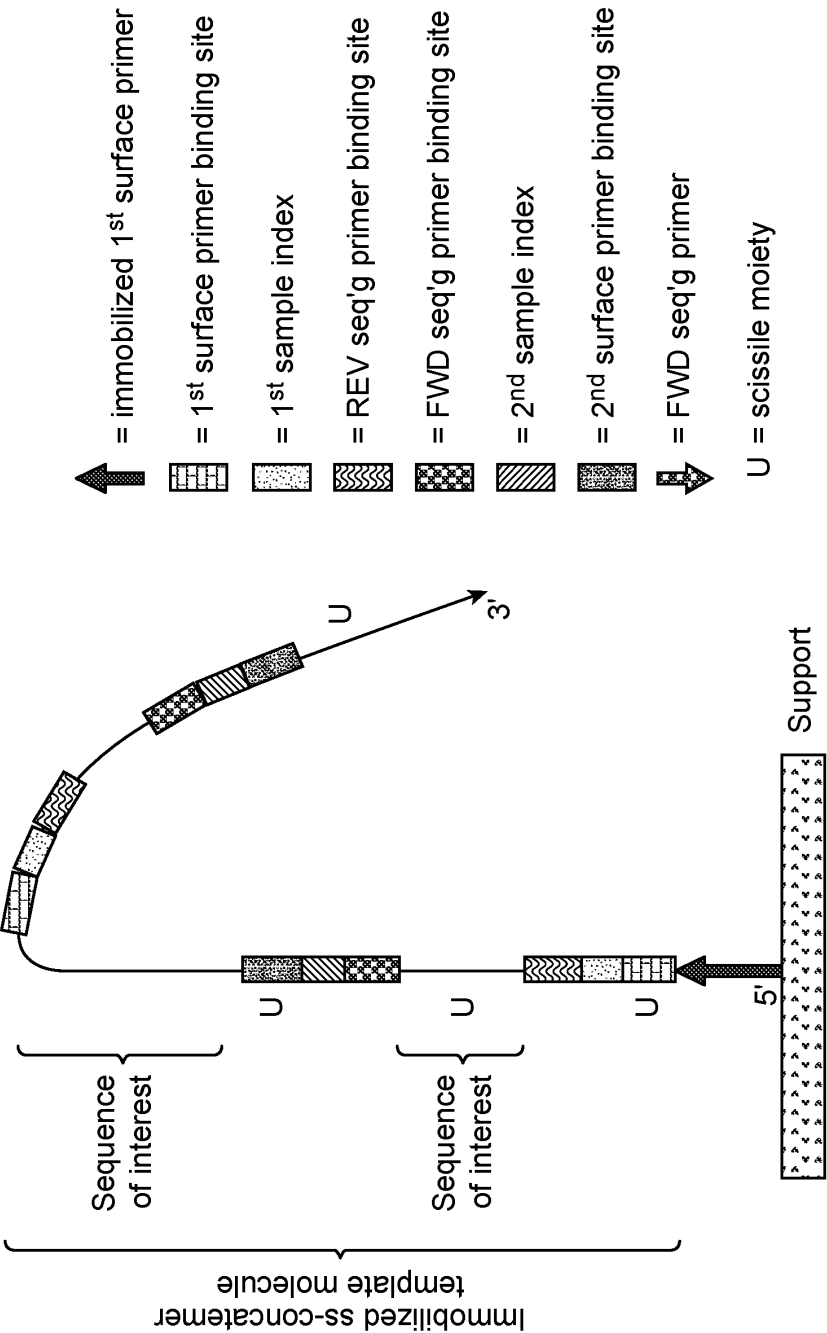


FIG. 16A

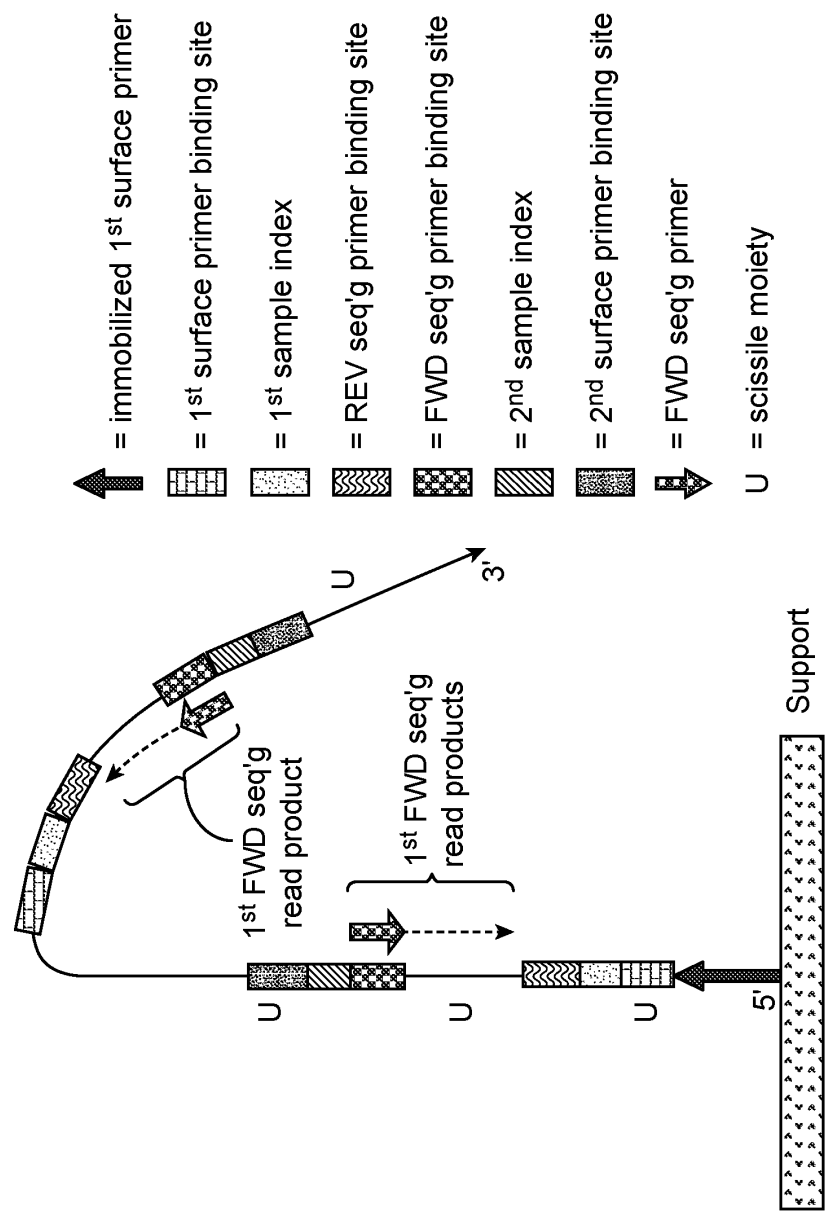


FIG. 16B

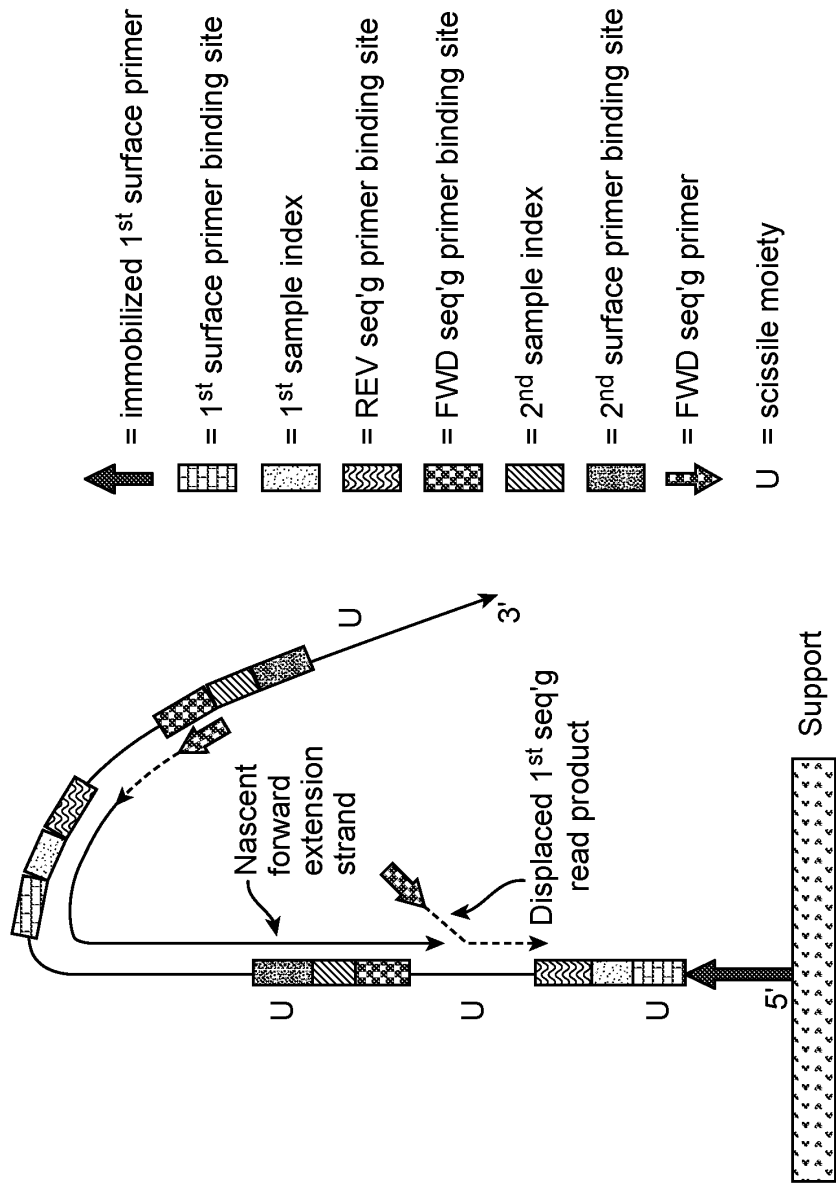


FIG. 16C

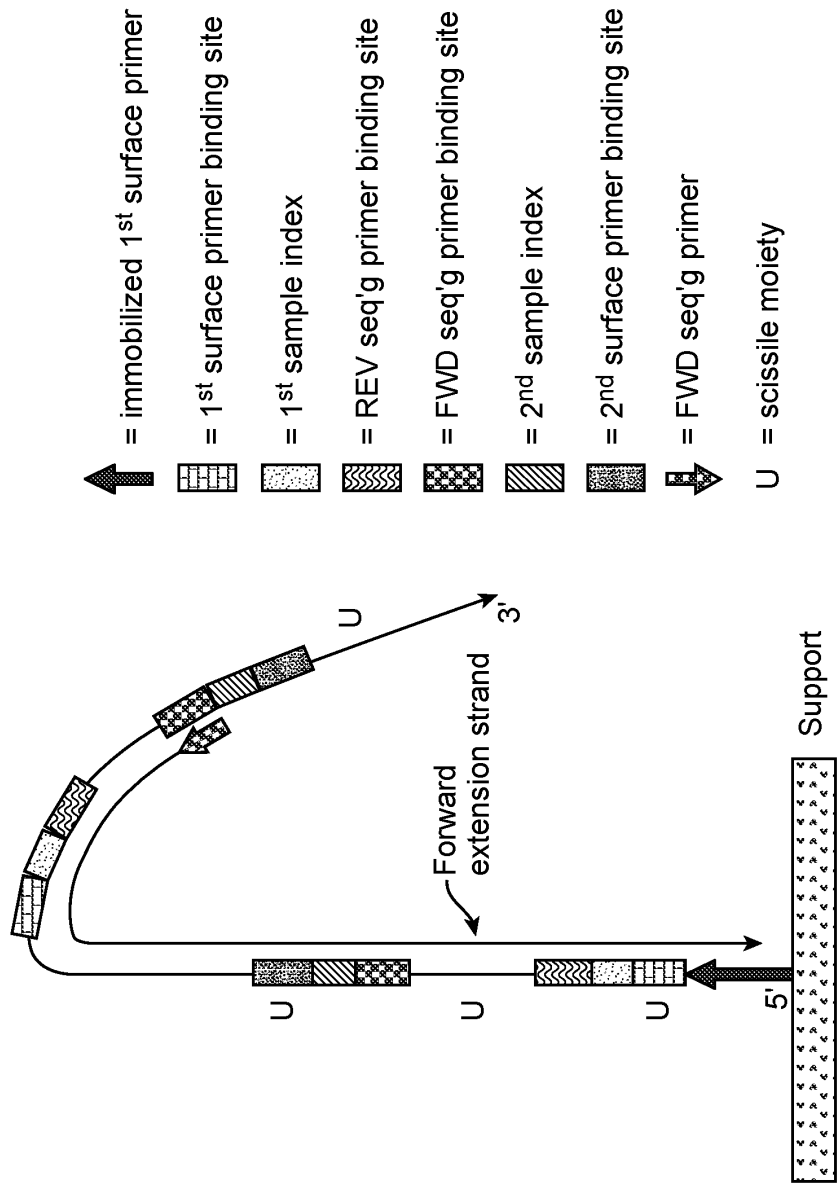


FIG. 16D

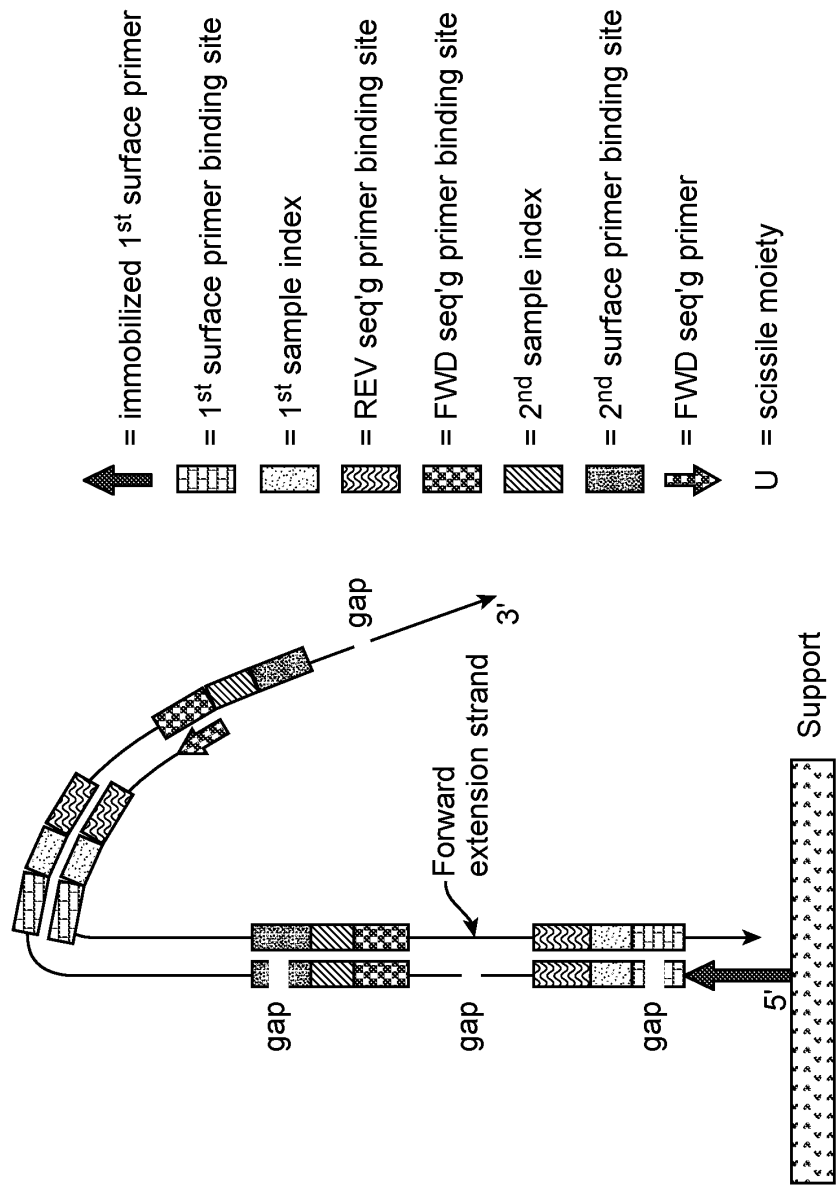


FIG. 16E

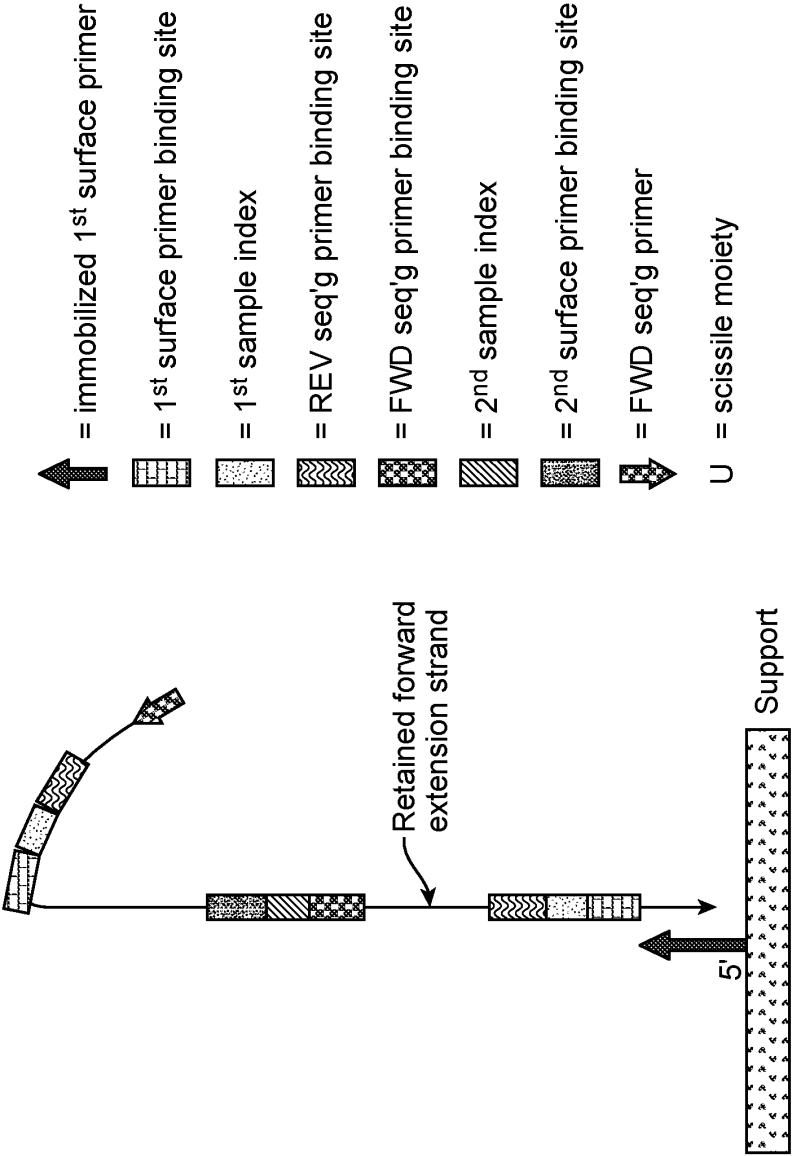


FIG. 16F

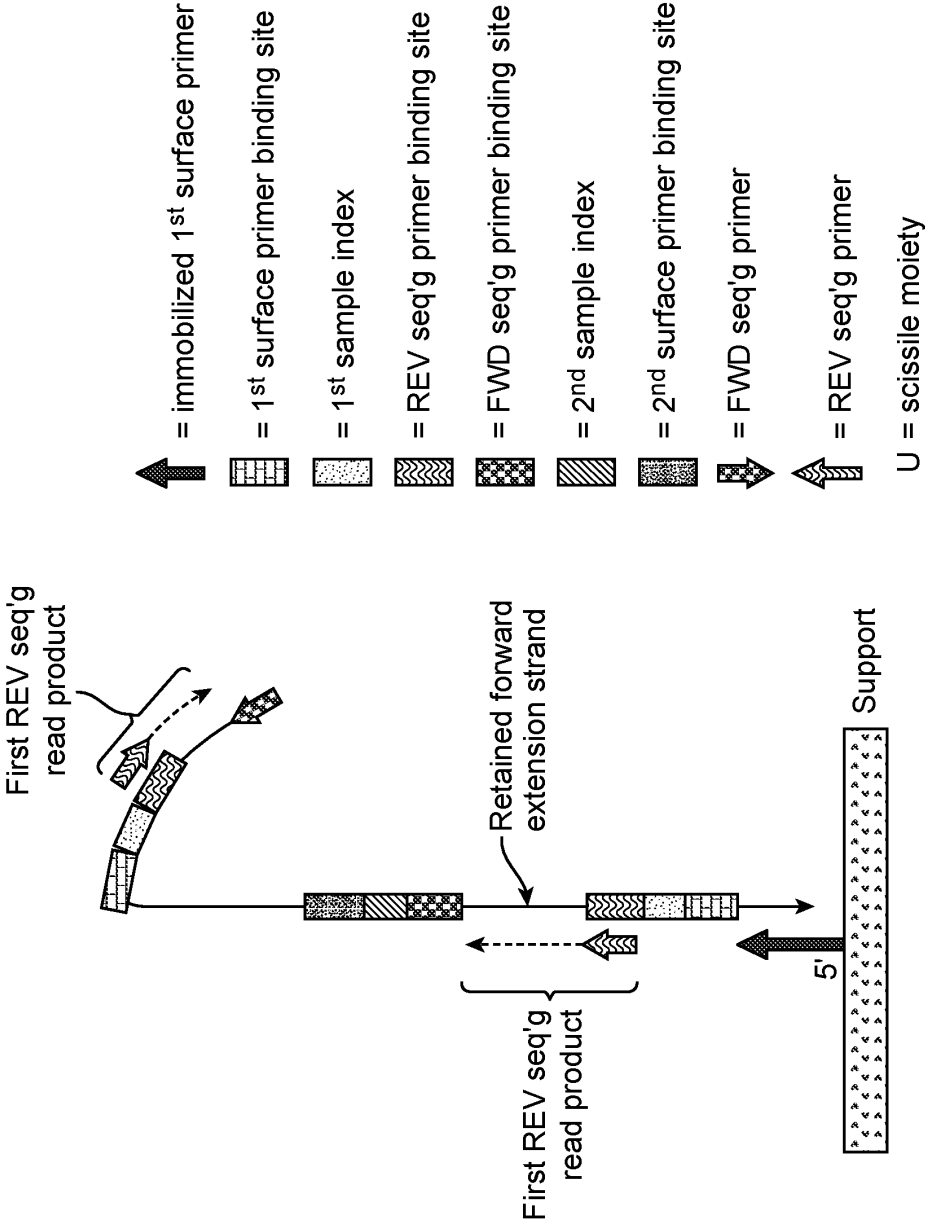


FIG. 16G

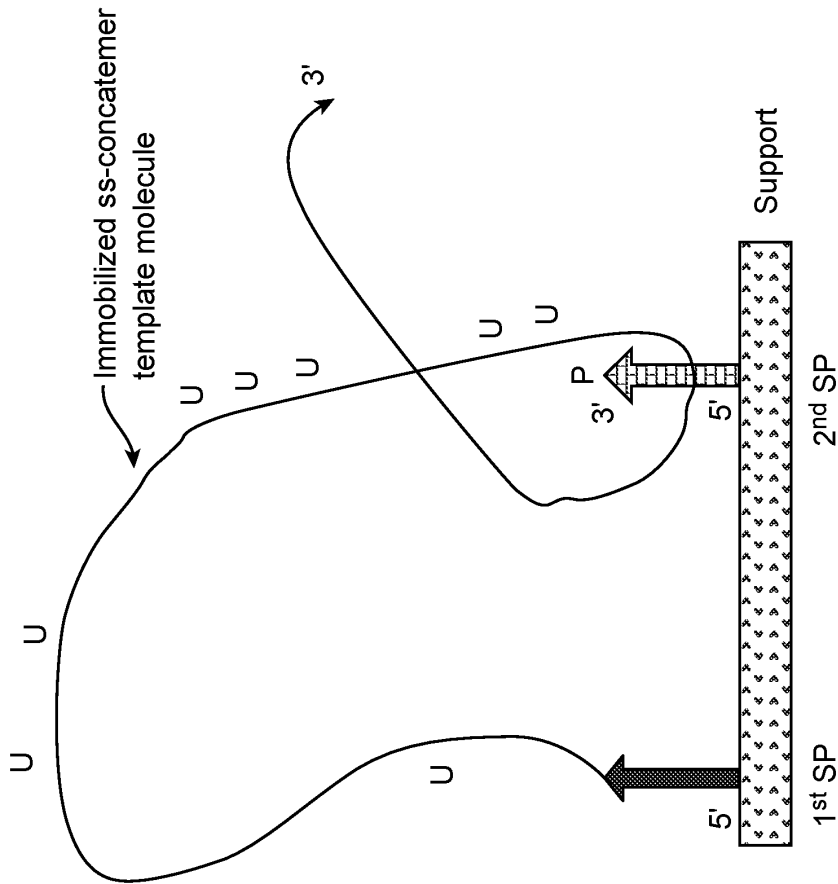


FIG. 16H

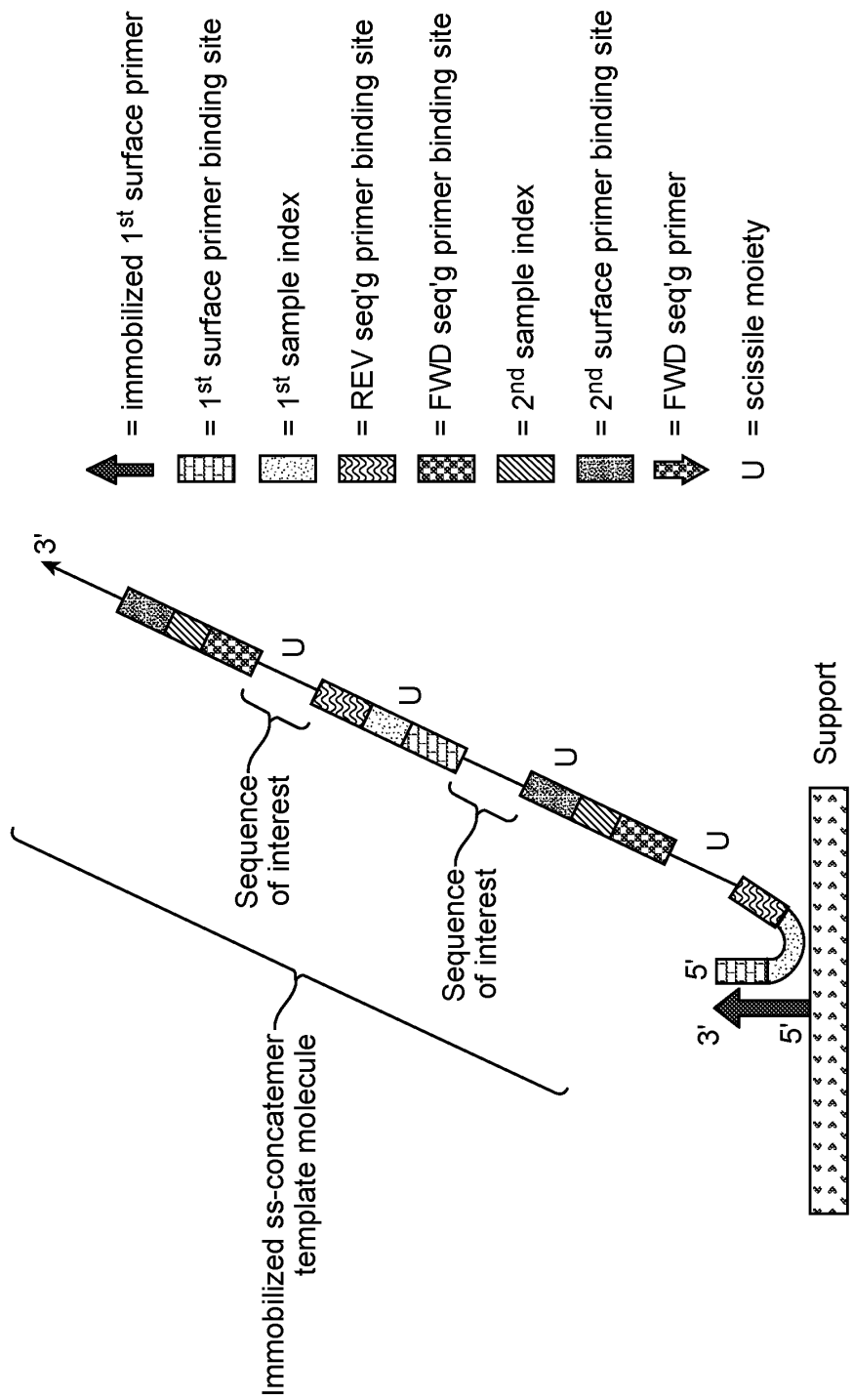


FIG. 17

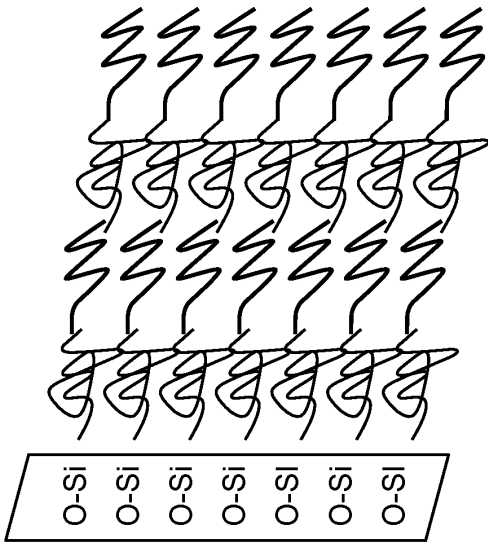


FIG. 18

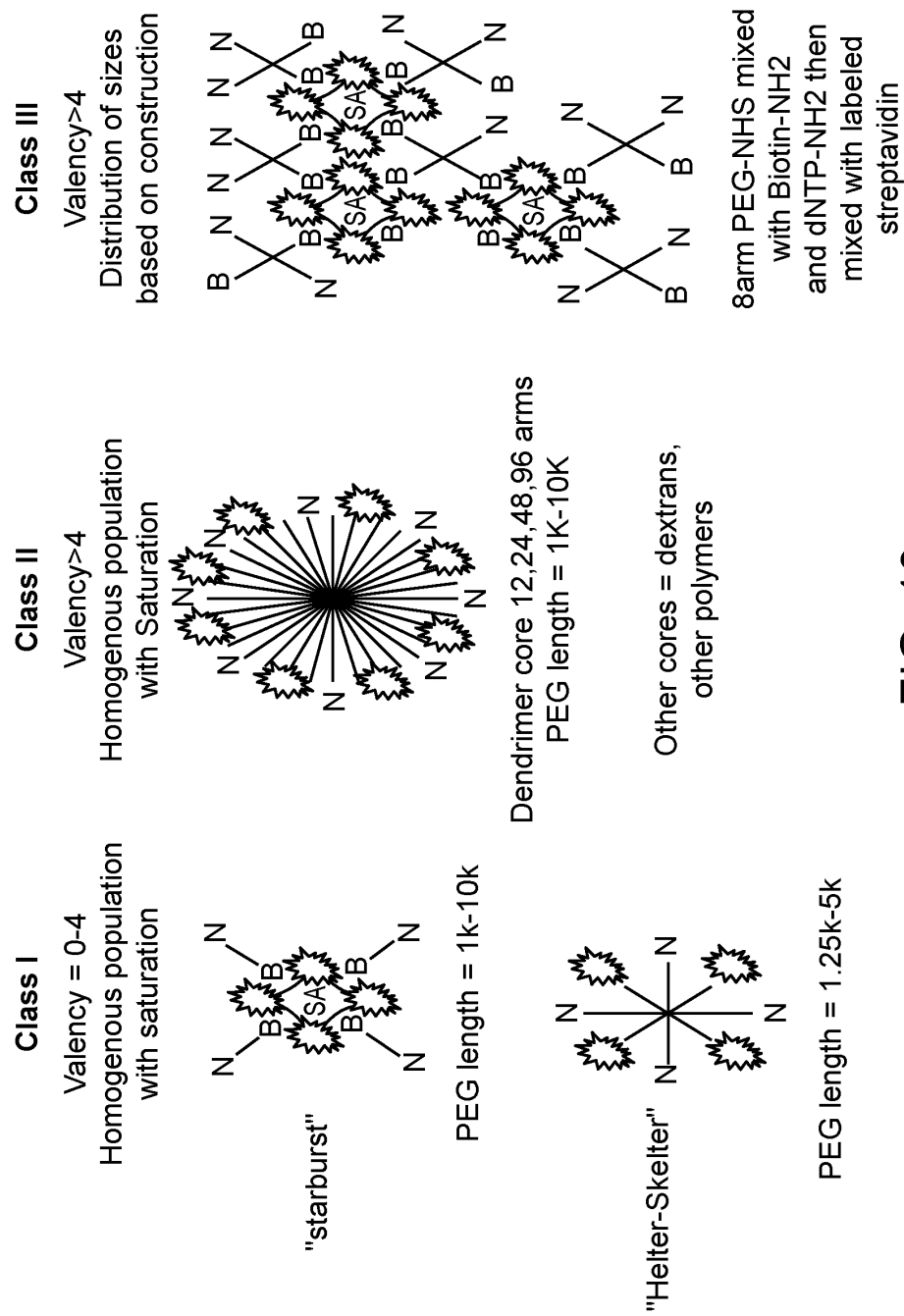


FIG. 19

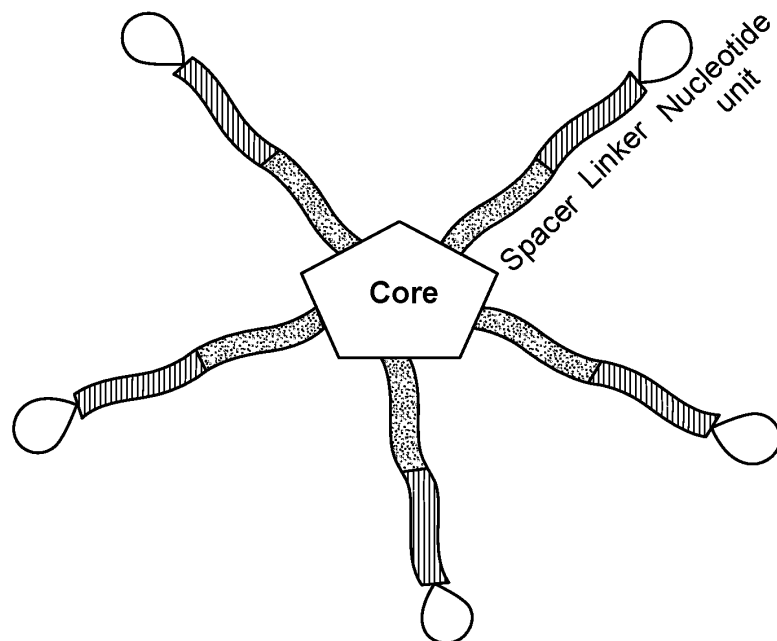


FIG. 20

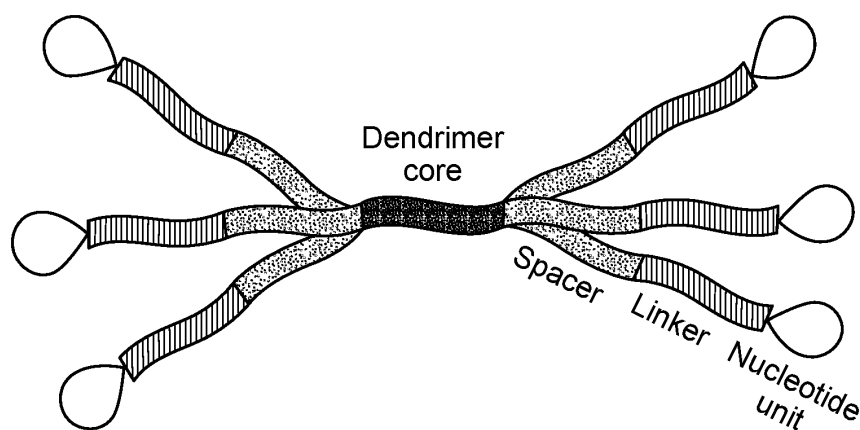


FIG. 21

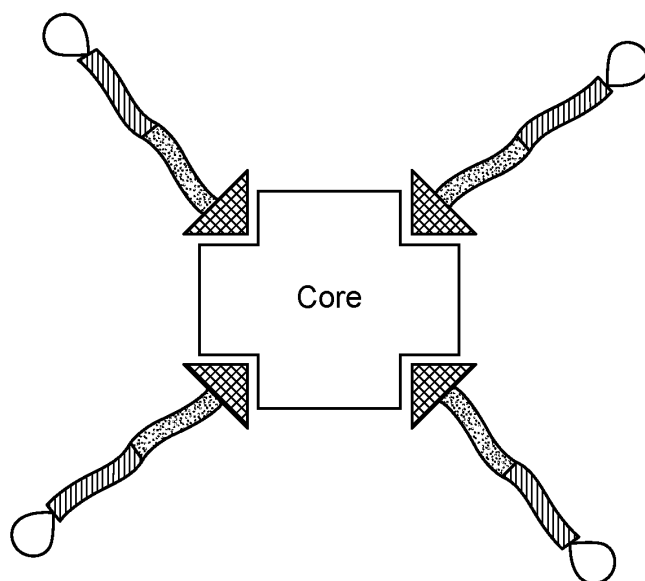


FIG. 22

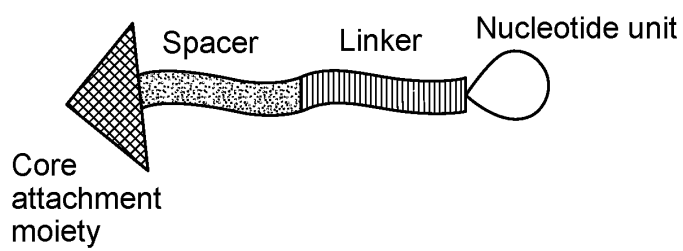


FIG. 23

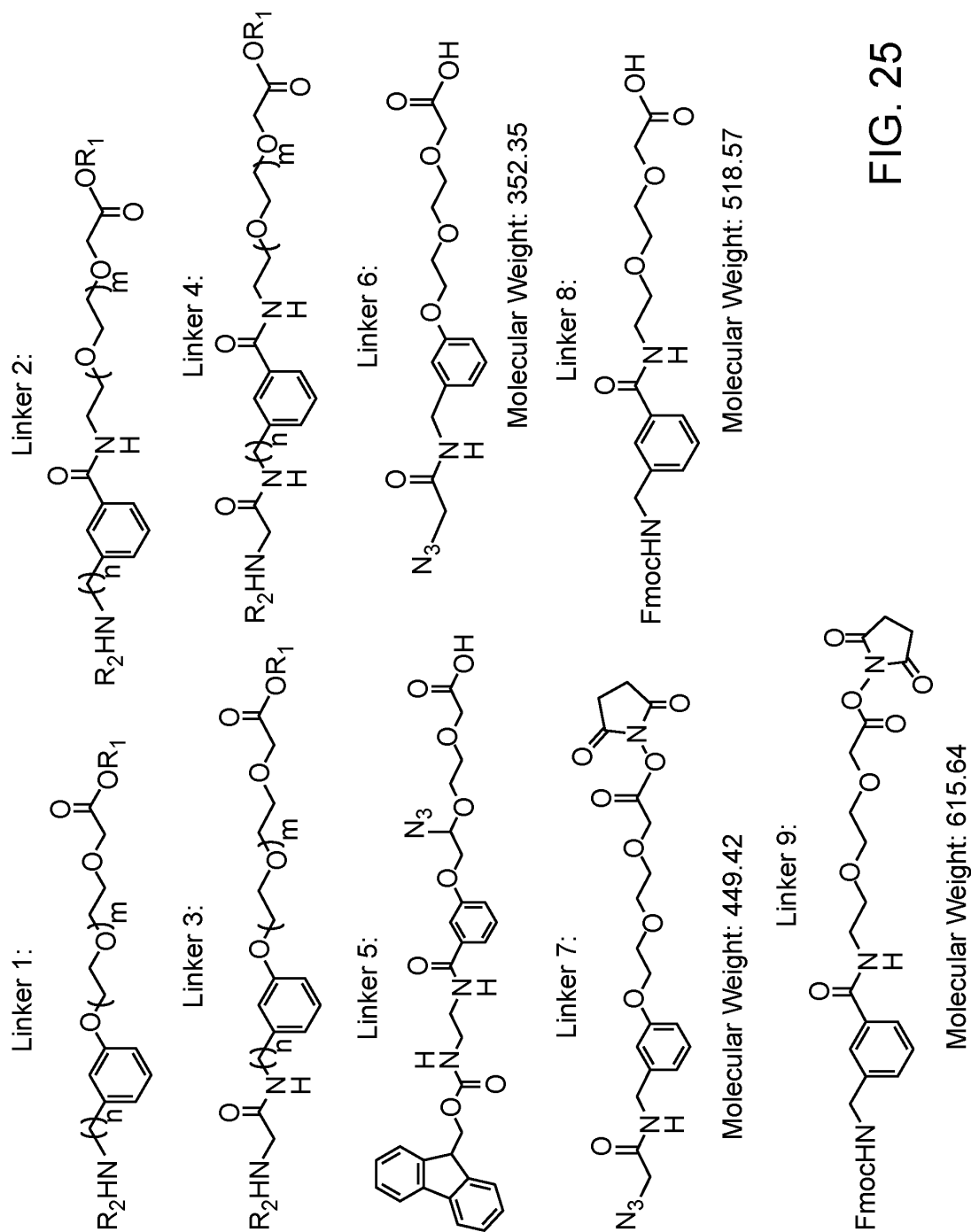
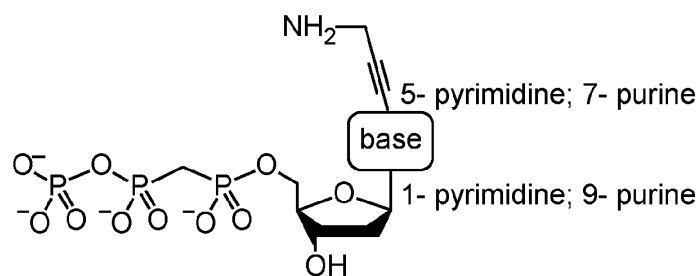
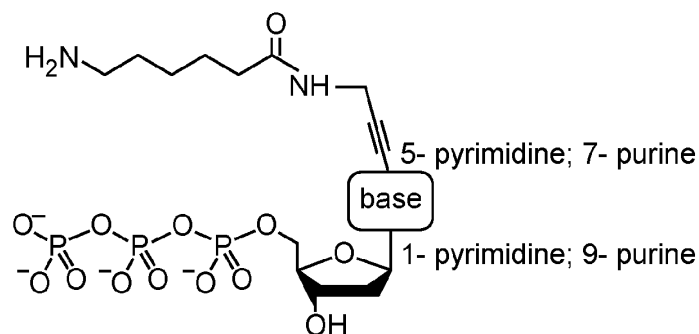


FIG. 25

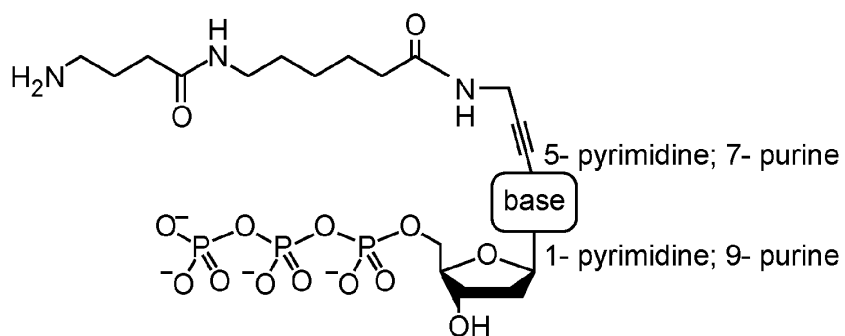
dNTP-PA-NH₂:



dNTP-PA-11 Atom Linker-NH₂:



dNTP-PA-16 Atom Linker-NH₂:



dNTP-PA-23 Atom Linker-NH₂:

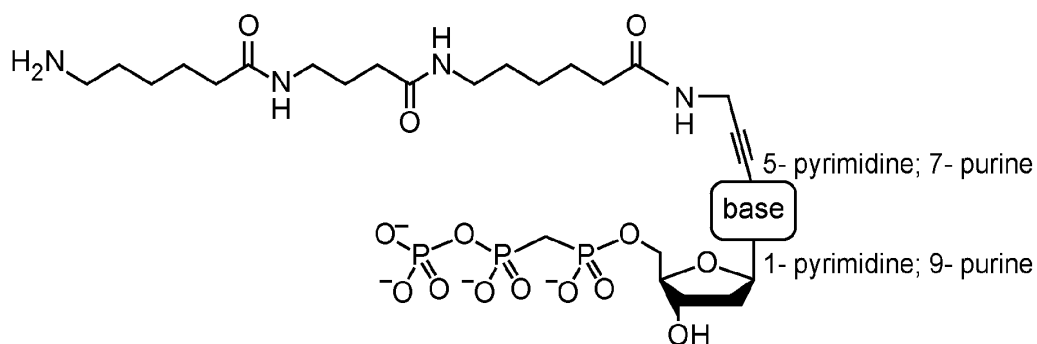


FIG. 26A

Chemical structure of a nucleotide derivative, showing a sugar-phosphate backbone and a base. The structure includes a phosphate group (P=O, O⁻), a sugar (ribose or deoxyribose), and a base (pyrimidine or purine). The base is labeled "base" and is connected to the sugar via a glycosidic bond. The sugar is labeled "1- pyrimidine; 9- purine". The phosphate group is labeled "5- pyrimidine; 7- purine".

[illegible]

Chemical structure of a nucleoside triphosphate (NTP) derivative. The structure shows a nucleoside core with a phosphate group (labeled "base" in a box) and a sugar moiety (labeled "1- pyrimidine; 9- purine"). The sugar is a ribose derivative with a hydroxyl group at the 2' position. The phosphate group is a triphosphate, with the terminal phosphate labeled "5- pyrimidine; 7- purine". The structure is shown in a simplified, schematic manner.

FIG. 26B

The chemical structure shows a nucleotide derivative. It consists of a sugar moiety (ribose or deoxyribose) attached to a phosphate group (labeled 1- pyrimidine; 9- purine). The sugar is connected via a triphosphate group to a flexible linker (labeled 5- pyrimidine; 7- purine). The linker is composed of a poly(ethylene glycol) (PEG) chain, represented by the repeating unit $-(CH_2CH_2O)_m-$, and a flexible chain, represented by the repeating unit $-(CH_2CH_2)_n-$. The linker is terminated by an amide group $-CONH-$ and a carboxylic acid group $-COOH$.

FIG. 26B

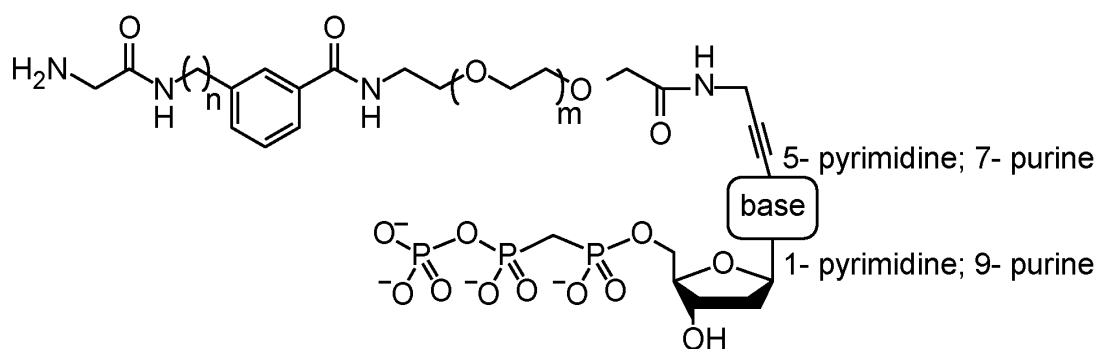
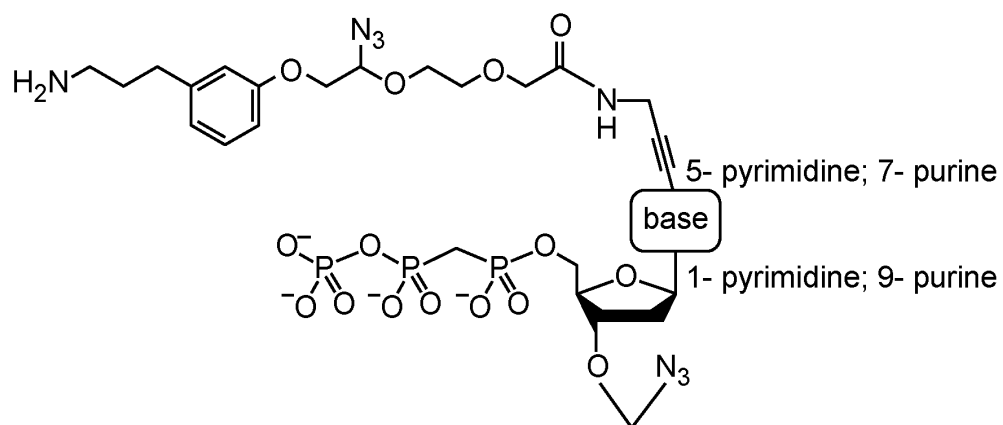
dNTP-PA-Linker 4-NH₂:**dNTP-PA-N3 Linker-NH₂:**

FIG. 26C

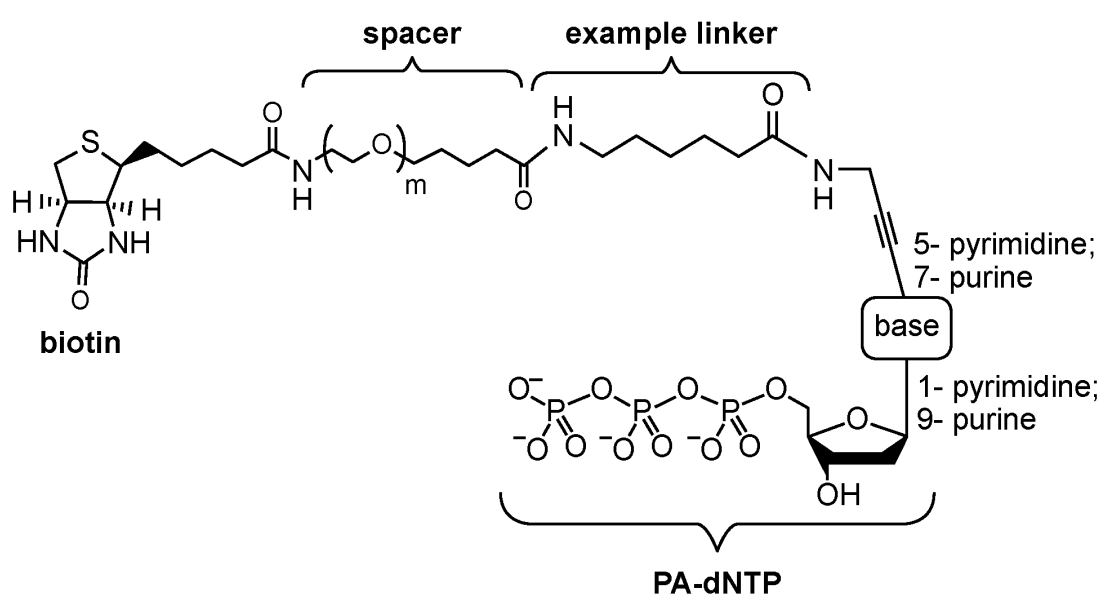


FIG. 27