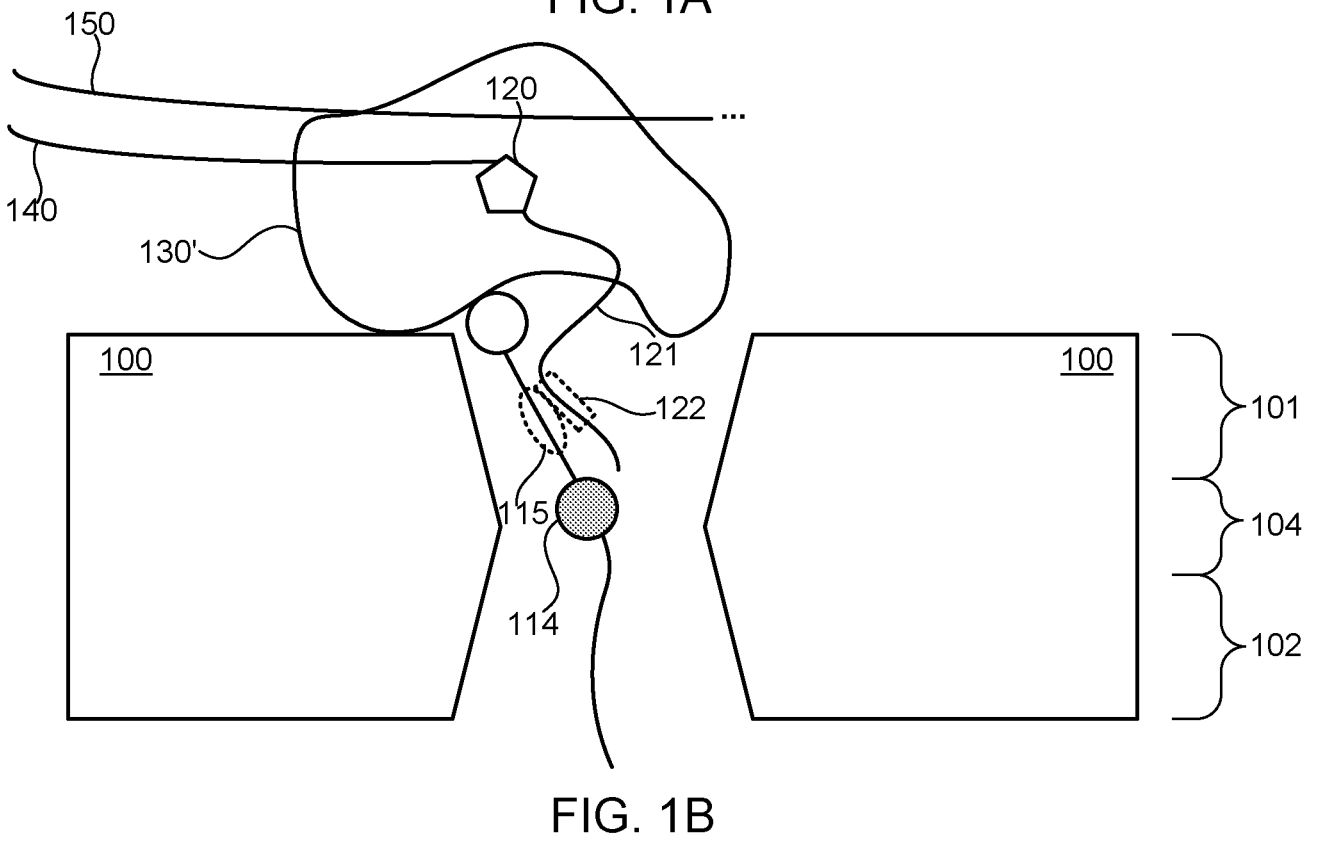
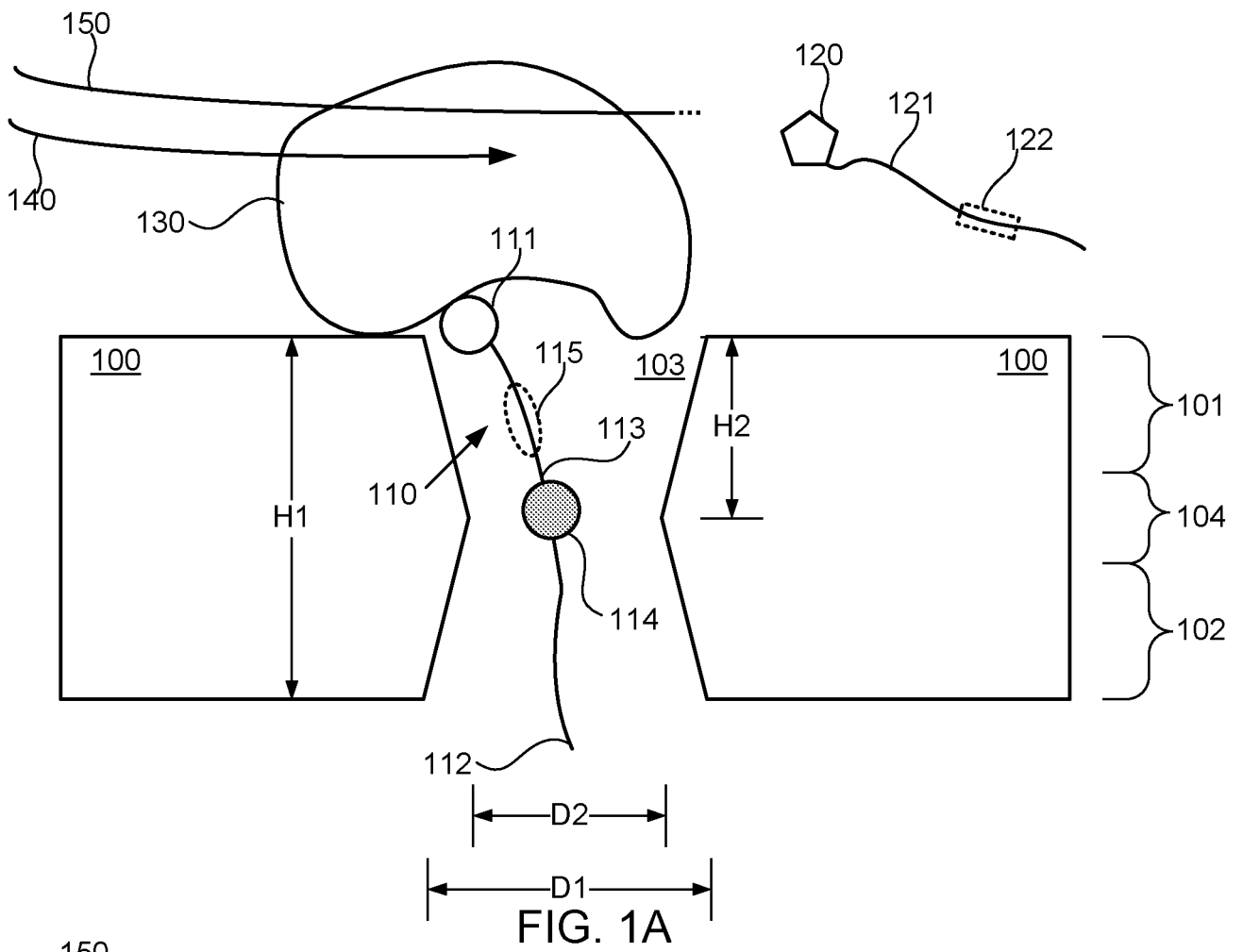




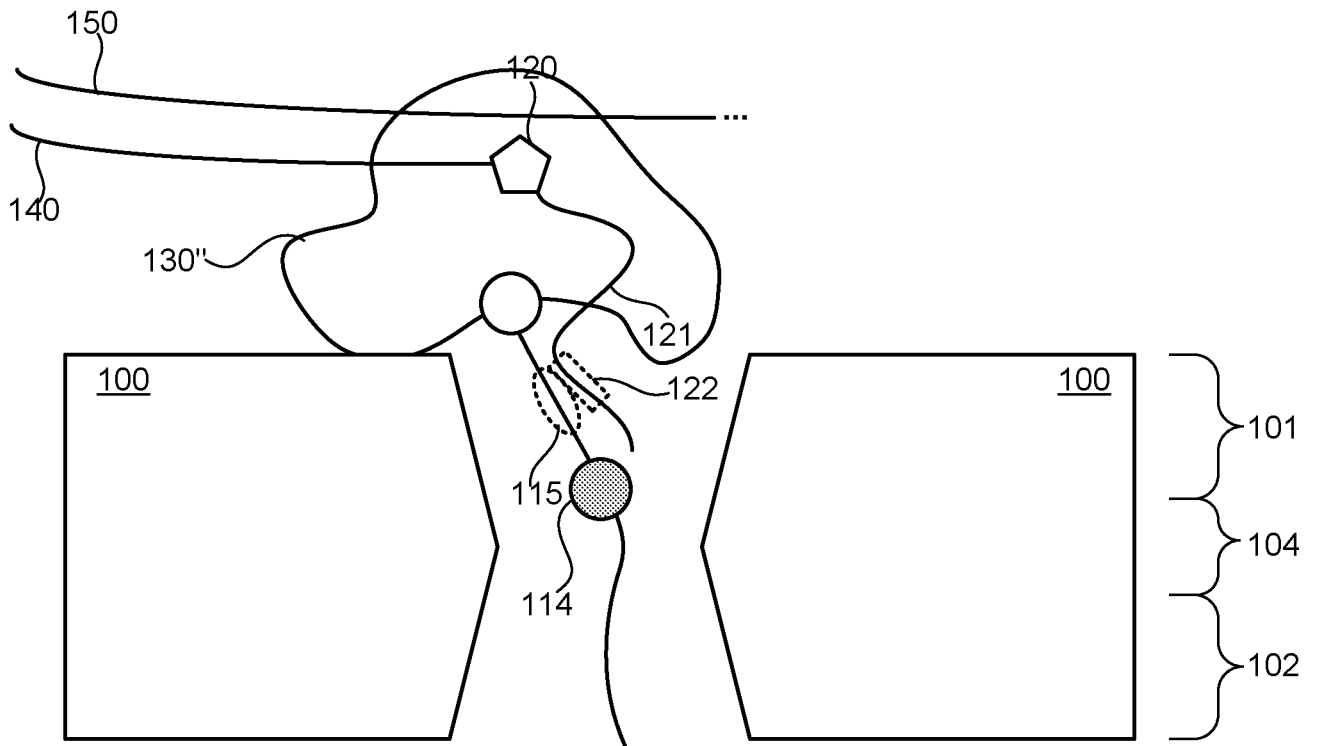


FIG. 1C

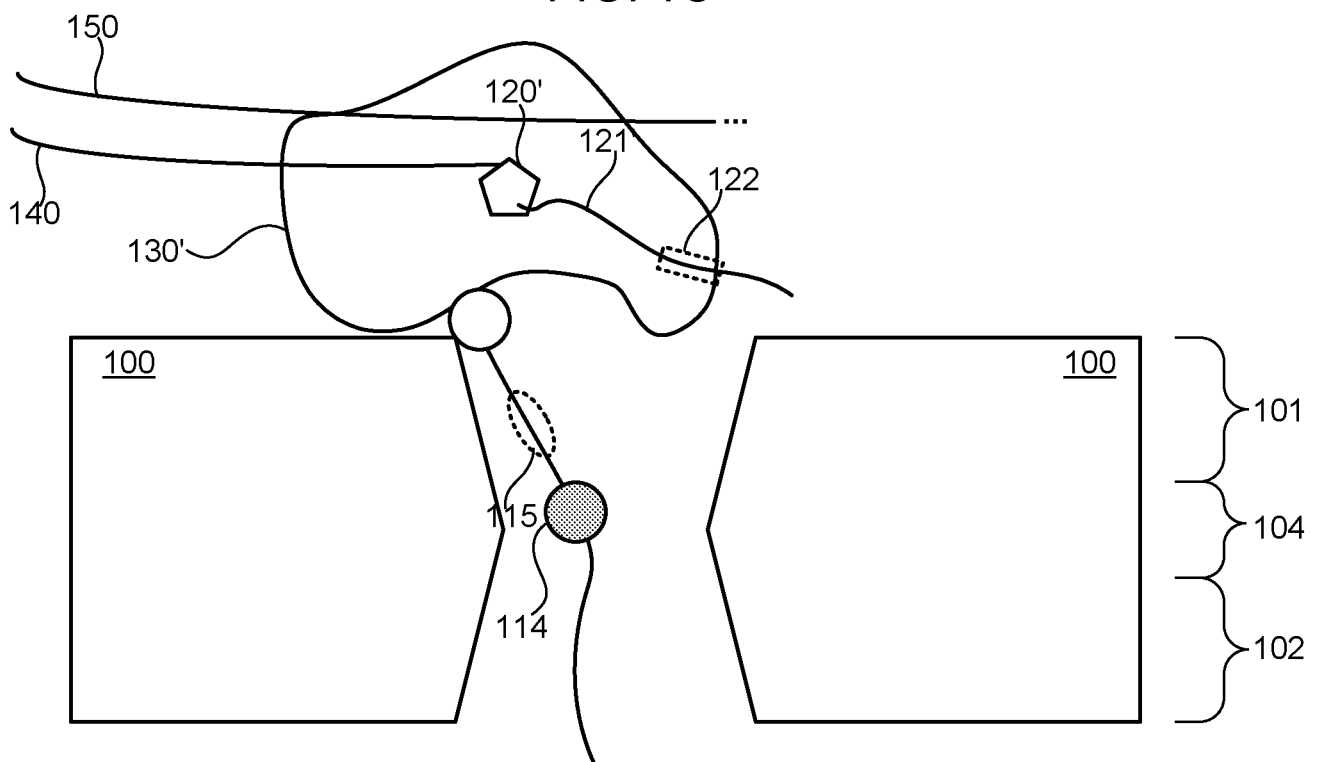
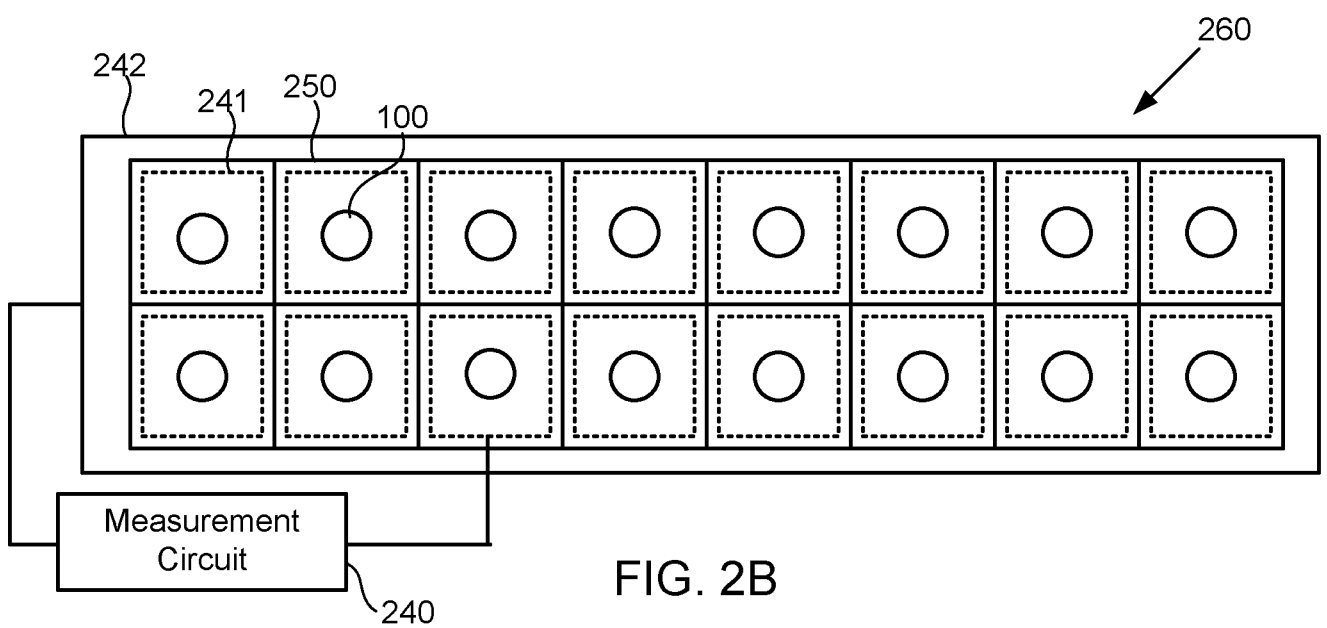
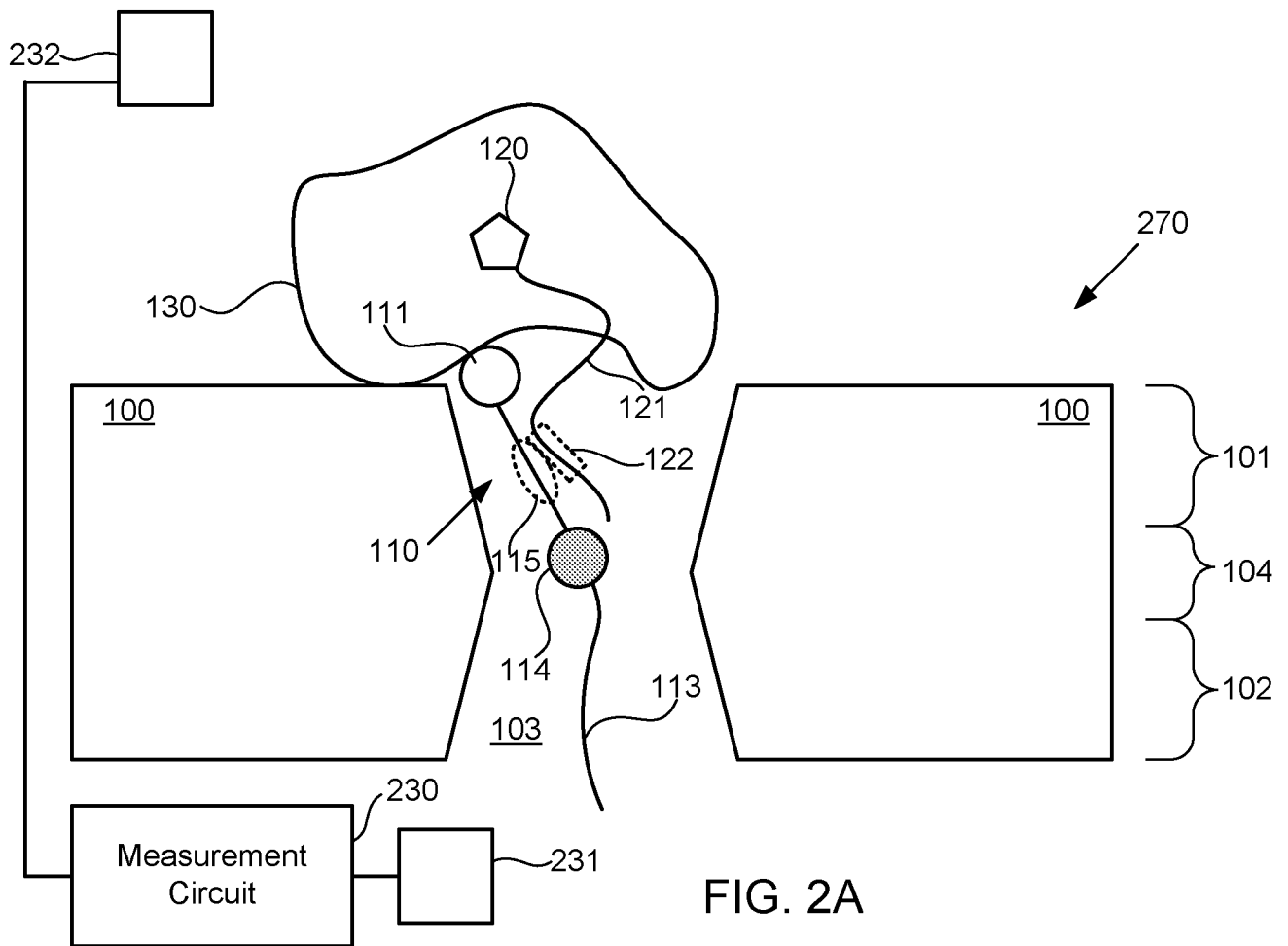


FIG. 1D



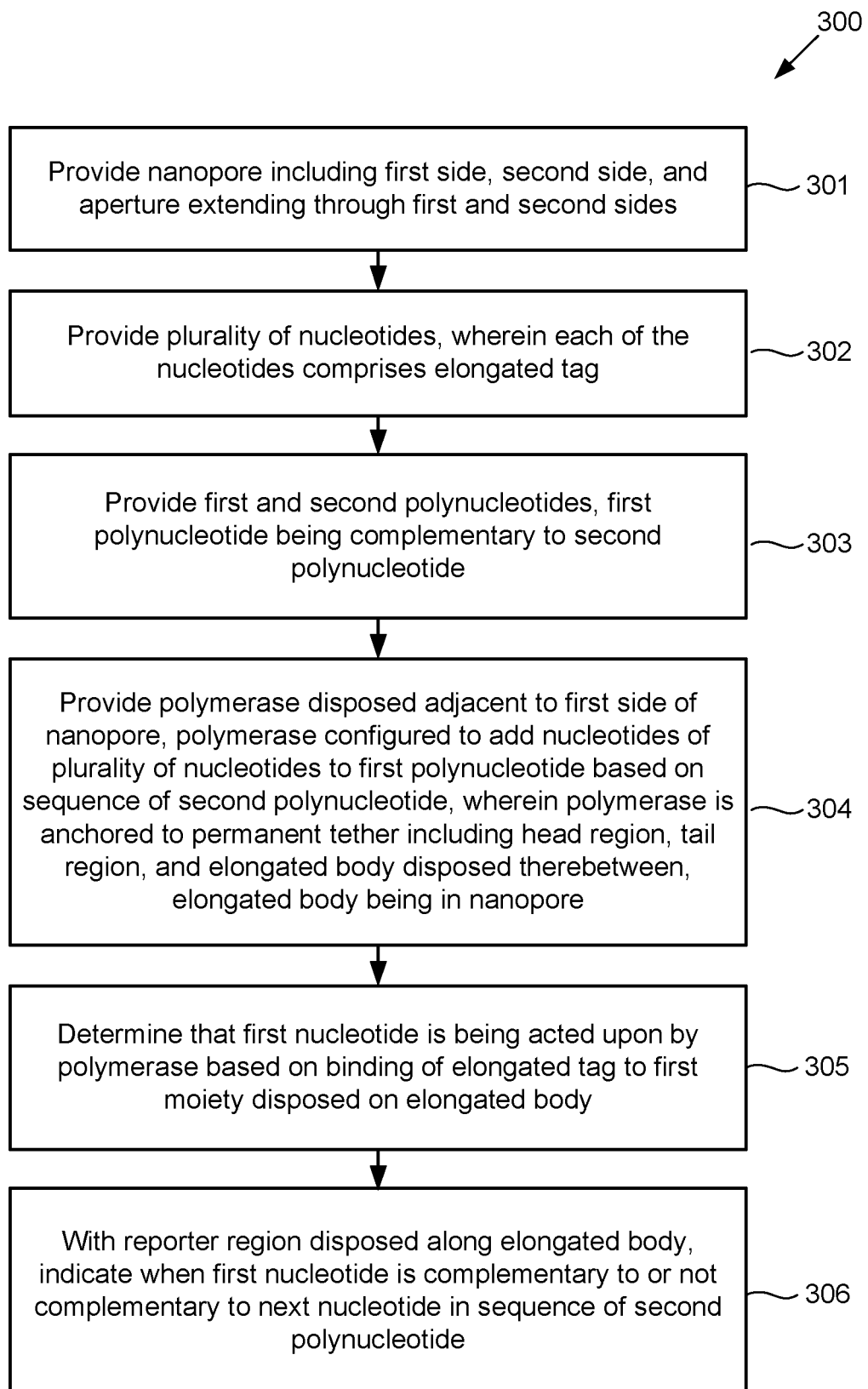


FIG. 3

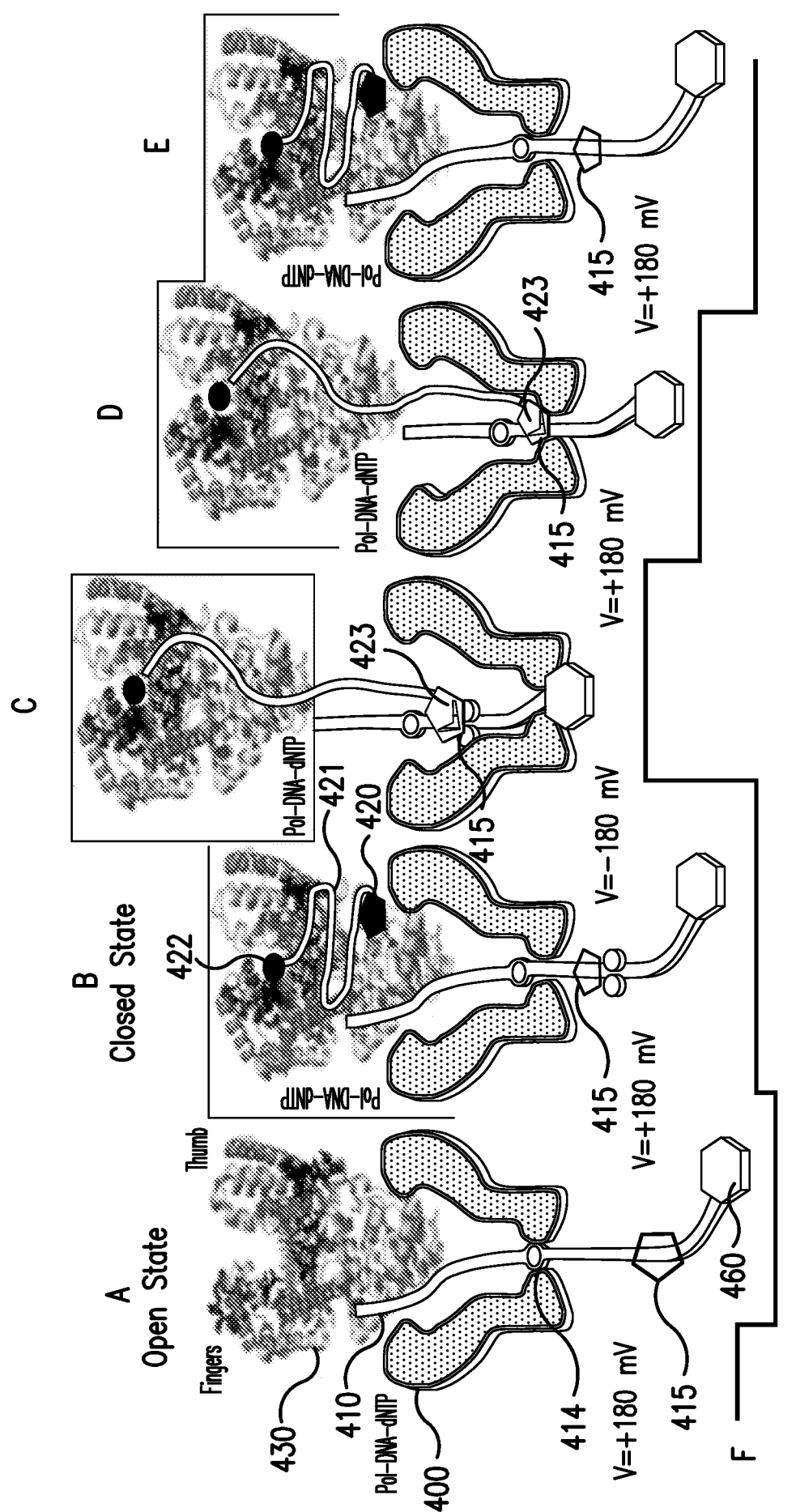
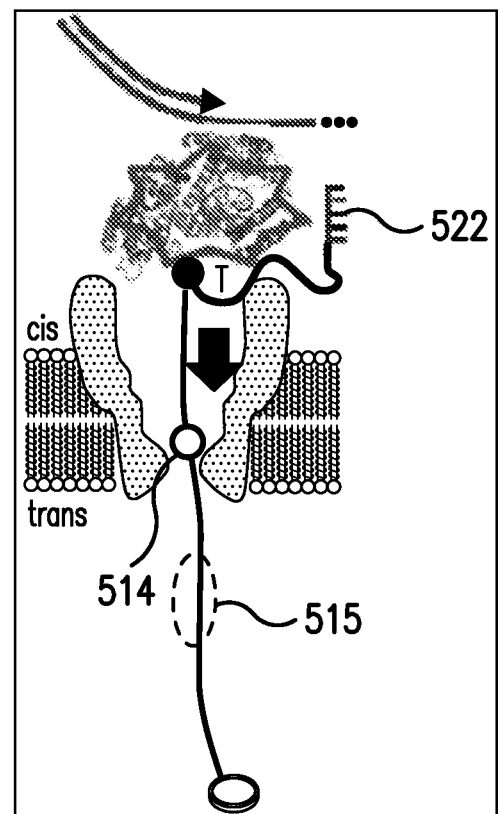


FIG. 4



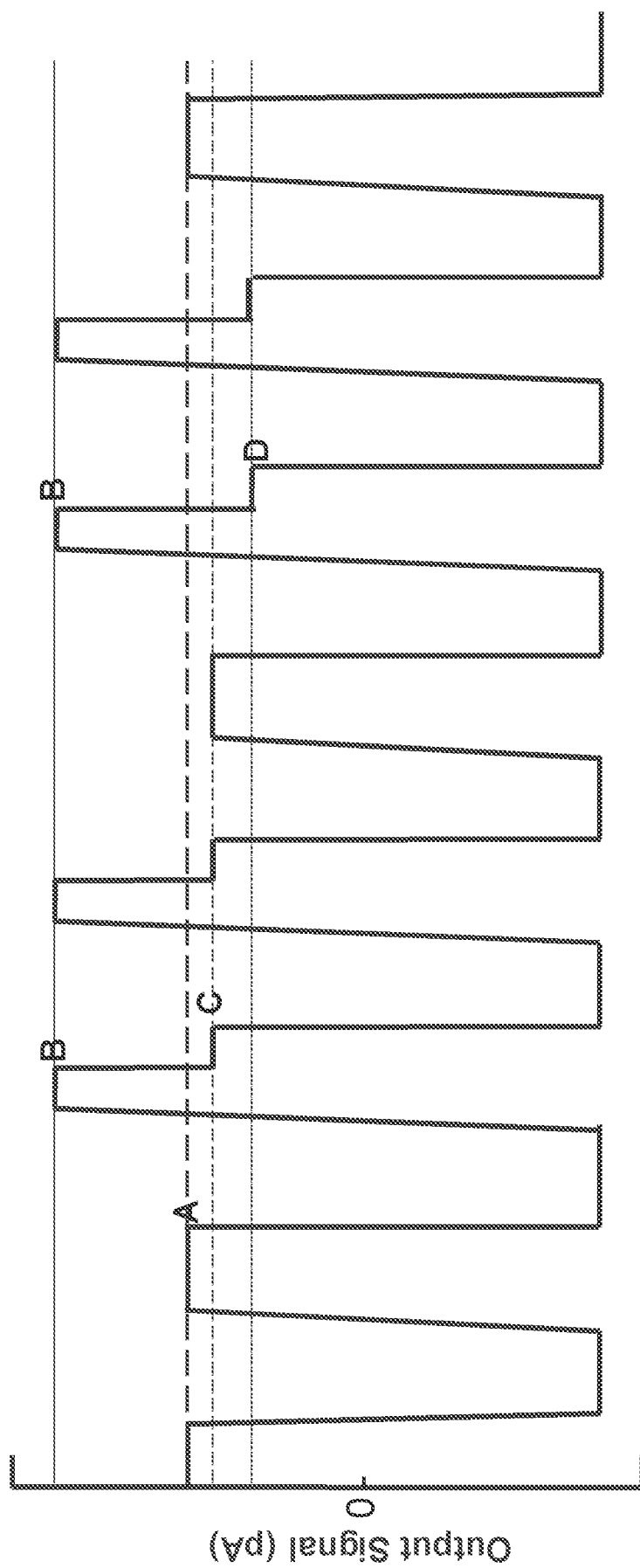


FIG. 6

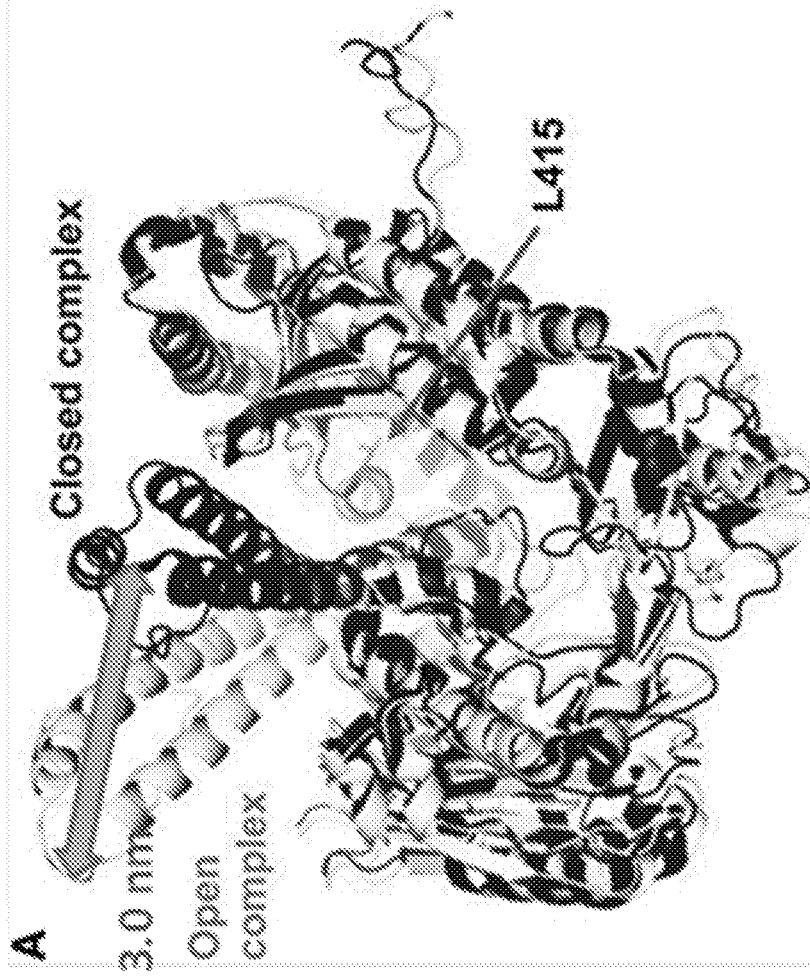


FIG. 7A

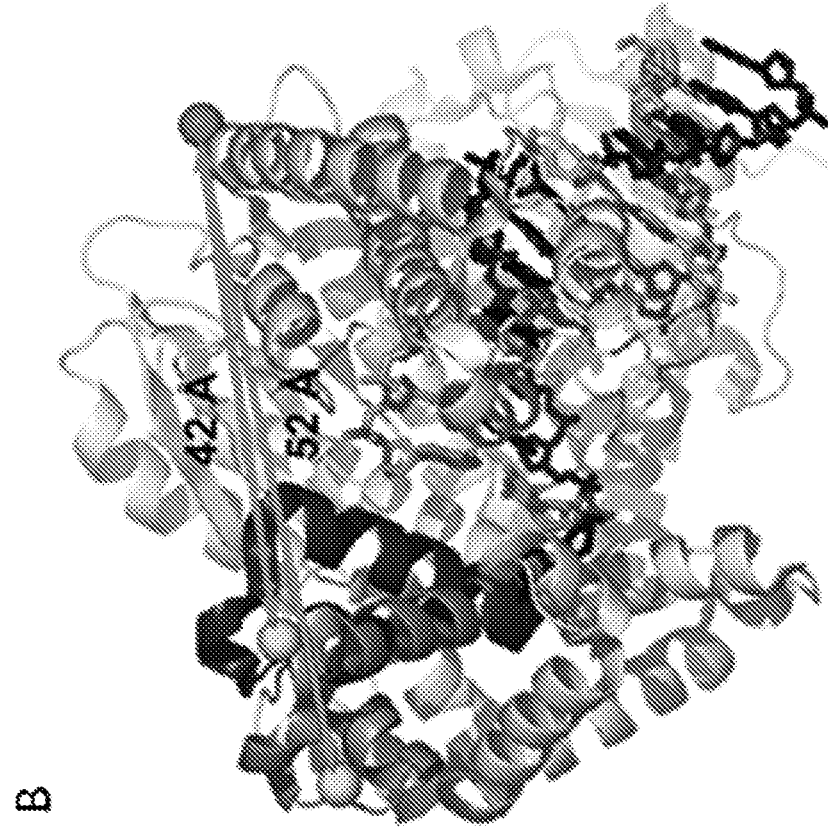


FIG. 7B

Open State

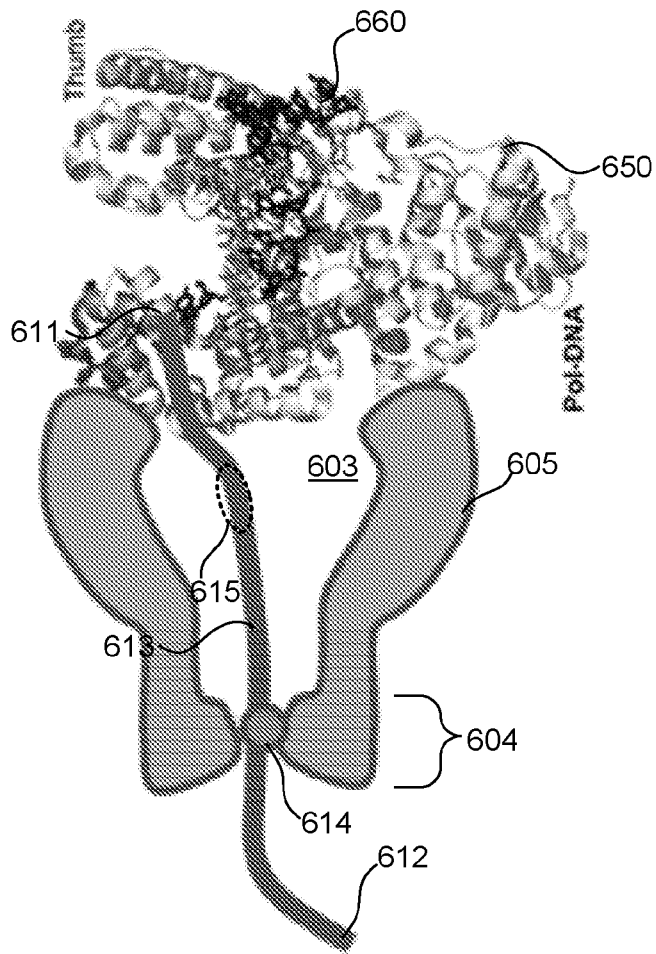


FIG. 7C

Closed State

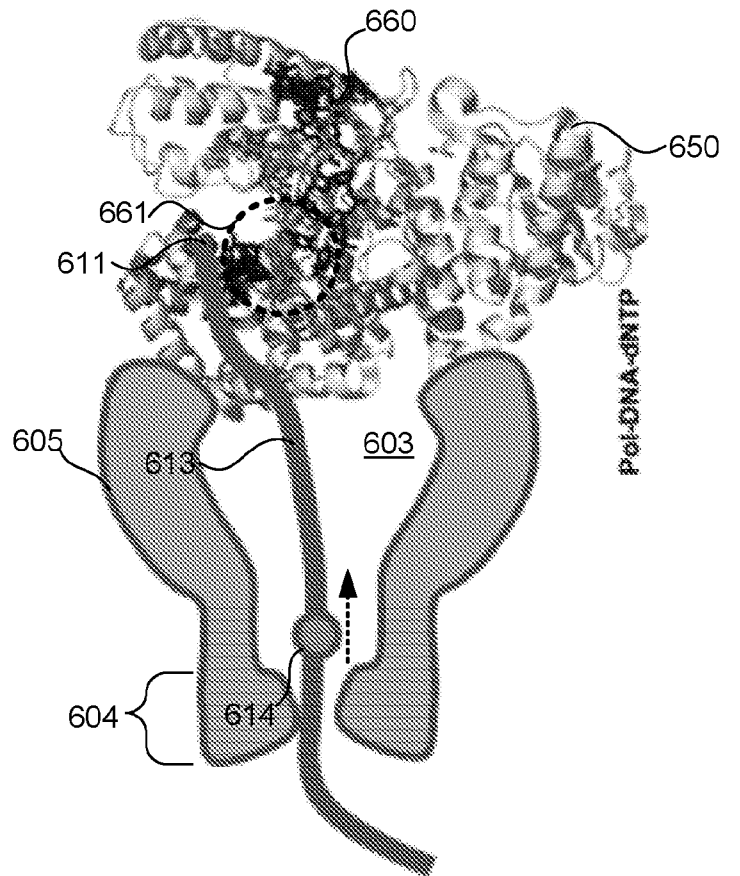
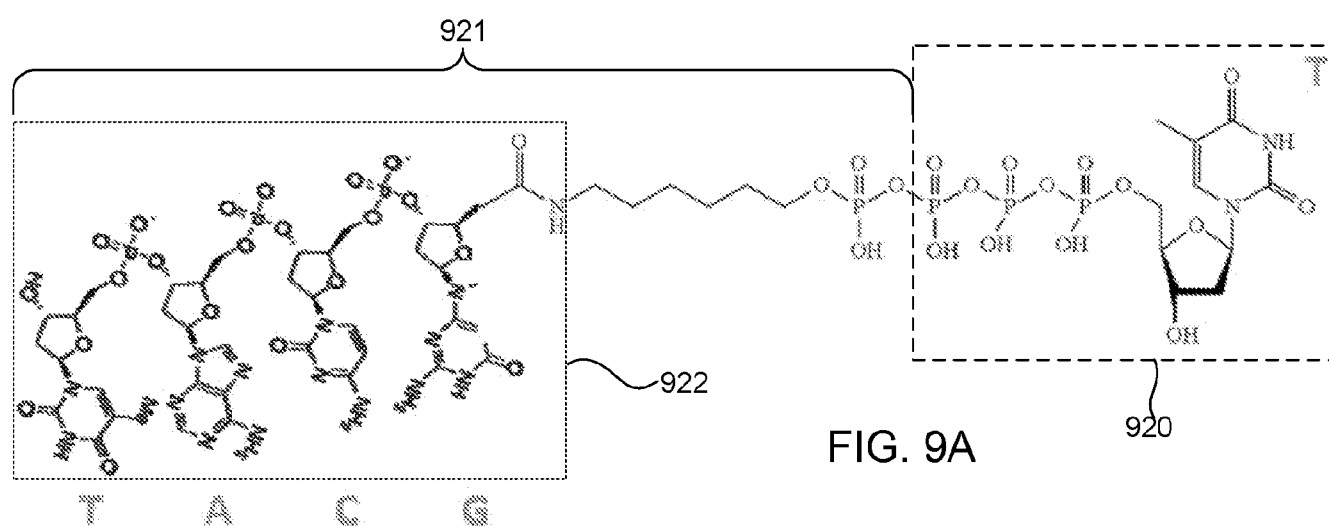


FIG. 7D

	Reaction Parameters	Tag Dwell Time (usec)
Reaction Scheme	$ \begin{array}{c} ED_n + dNTP \xrightleftharpoons[K_1]{\text{open}} ED_n dNTP \xrightleftharpoons[k_{-2}]{\text{open}} ED_n dNTP \xrightleftharpoons[k_2]{\text{closed}} FD_n dNTP \xrightleftharpoons[k_{-3}]{\text{closed}} FD_n PP_i \xrightleftharpoons[k_3]{\text{fast}} ED_{n+1} + PP_i \end{array} $	$1/(k_{-2} + k_{-3})$
Perfect Match Nucleotide	$ \begin{array}{c} ED_n + dNTP \xrightleftharpoons[28 \mu M]{\text{open}} ED_n dNTP \xrightleftharpoons[660 \text{ s}^{-1}]{\text{open}} ED_n dNTP \xrightleftharpoons[1.6 \text{ s}^{-1}]{\text{closed}} FD_n dNTP \xrightleftharpoons[360 \text{ s}^{-1}]{\text{closed}} FD_n PP_i \xrightleftharpoons[\text{fast}]{\text{open}} ED_{n+1} + PP_i \end{array} $	2760
Mismatch Nucleotide	$ \begin{array}{c} ED_n + dNTP \xrightleftharpoons[200 \mu M]{\text{open}} ED_n dNTP \xrightleftharpoons[220 \text{ s}^{-1}]{\text{open}} ED_n dNTP \xrightleftharpoons[420 \text{ s}^{-1}]{\text{mismatch}} GD_n dNTP \xrightleftharpoons[0.3 \text{ s}^{-1}]{\text{mismatch}} GD_n PP_i \xrightleftharpoons[\text{fast}]{\text{open}} ED_{n+1} + PP_i \end{array} $	2380

FIG. 8



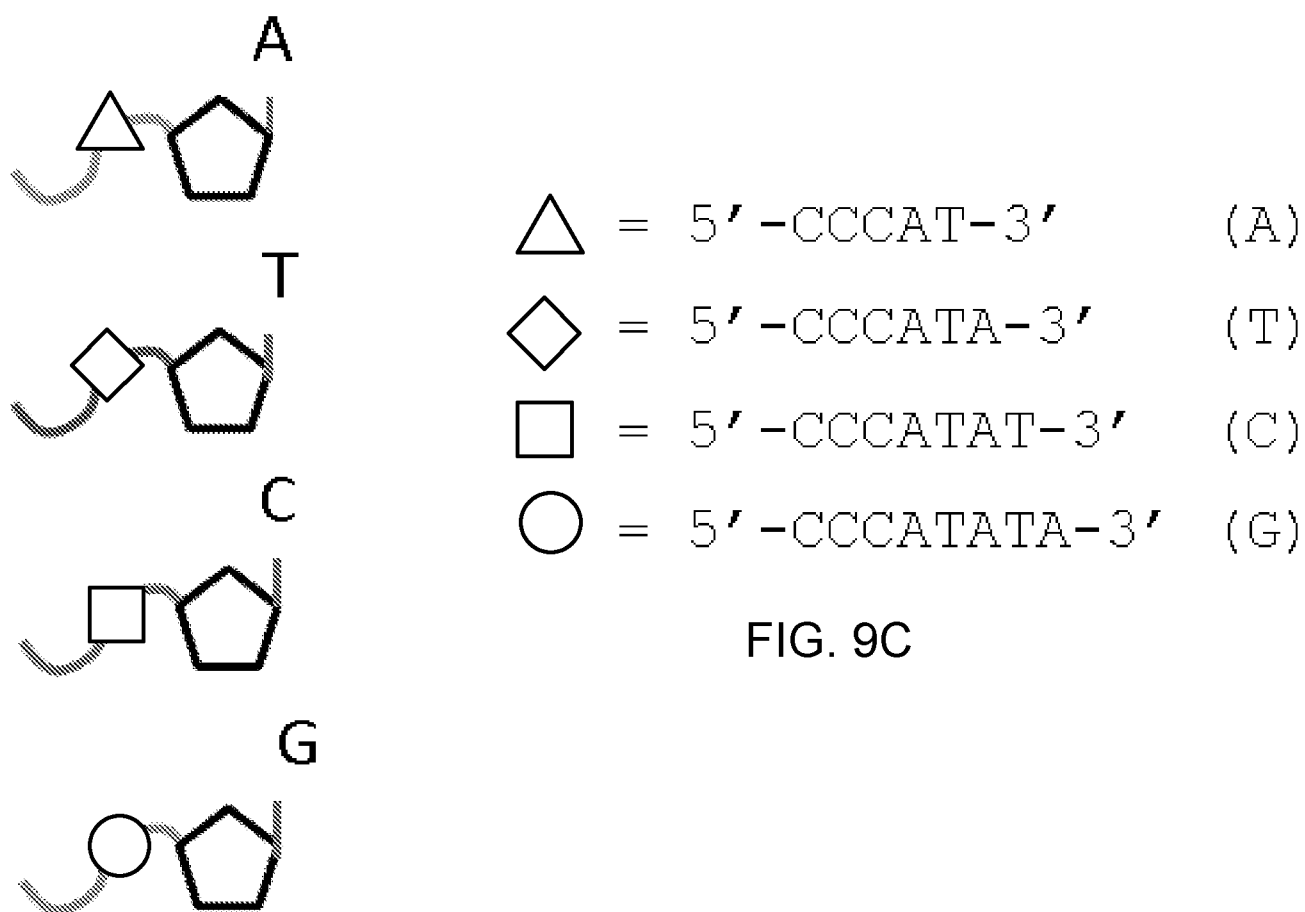


FIG. 9C

FIG. 9B

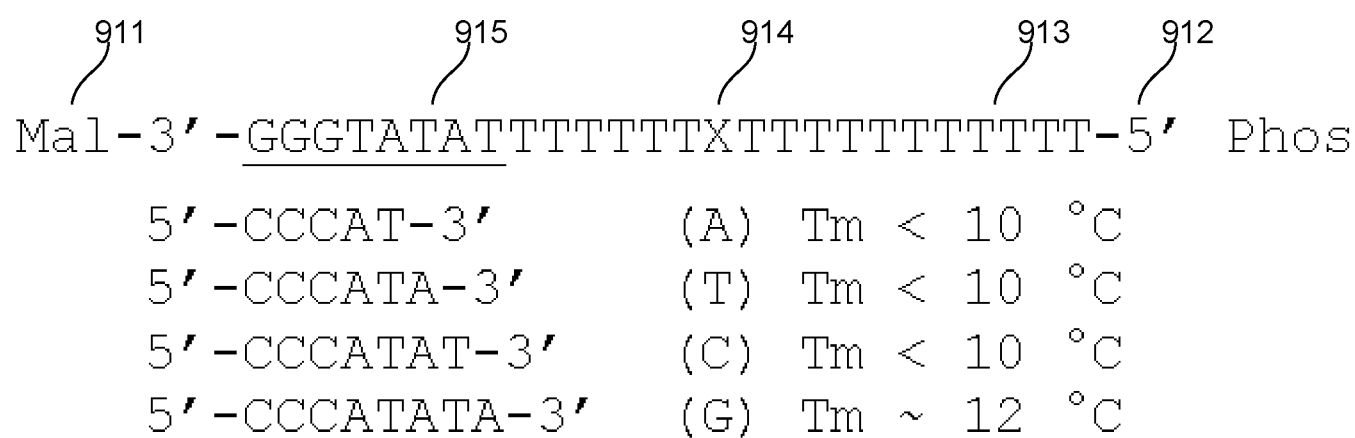
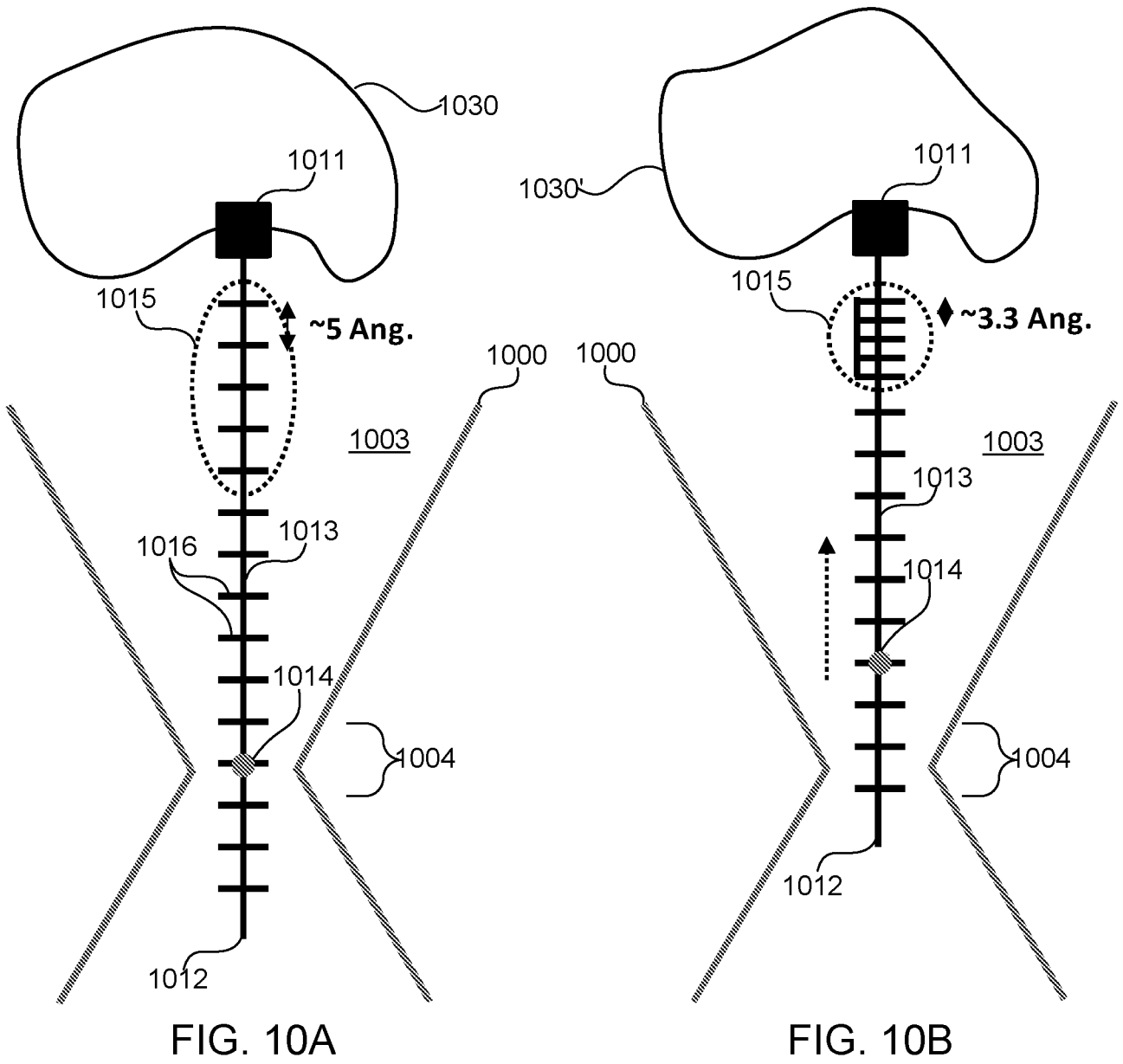


FIG. 9D



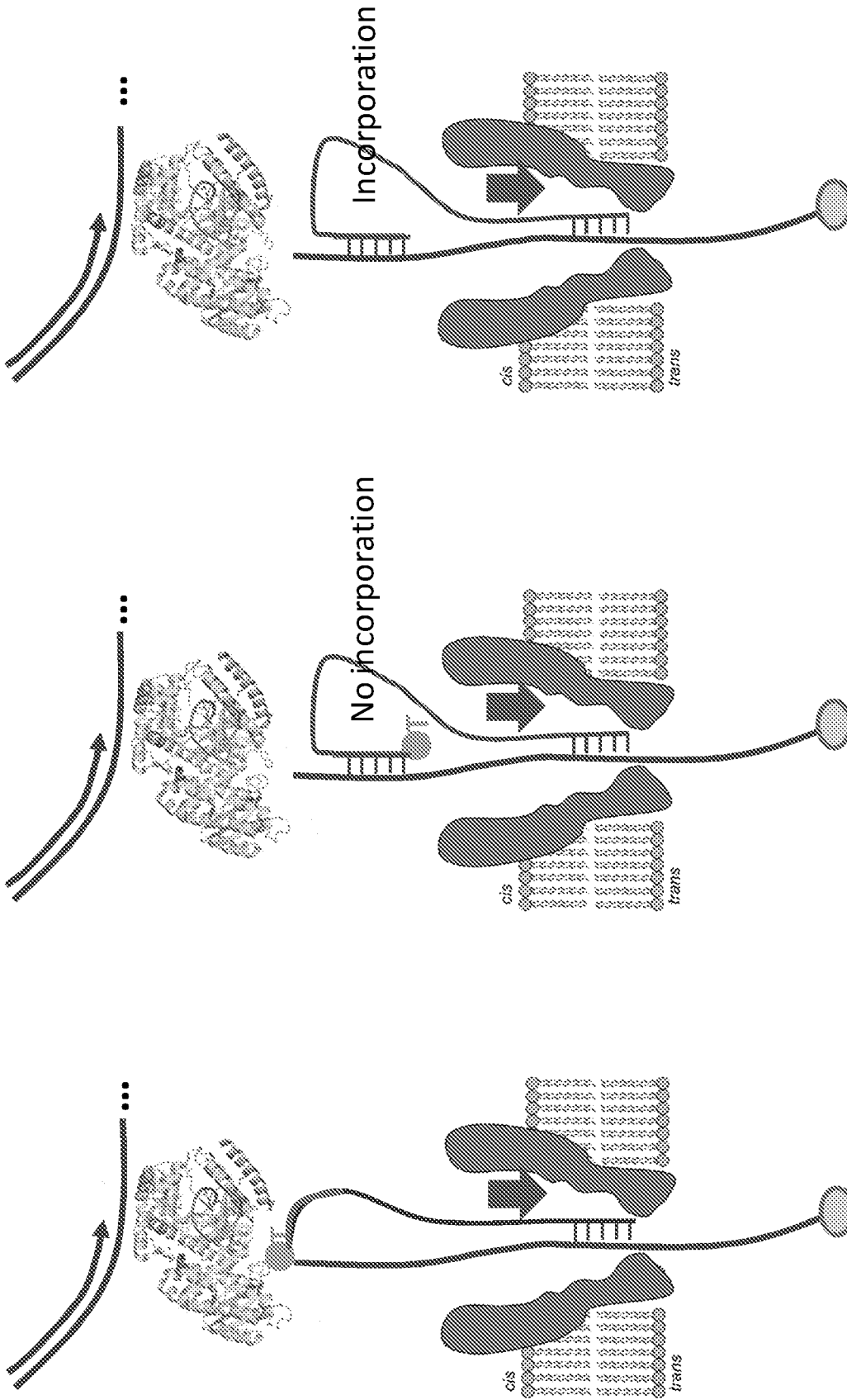


FIG. 11C

FIG. 11B

FIG. 11A

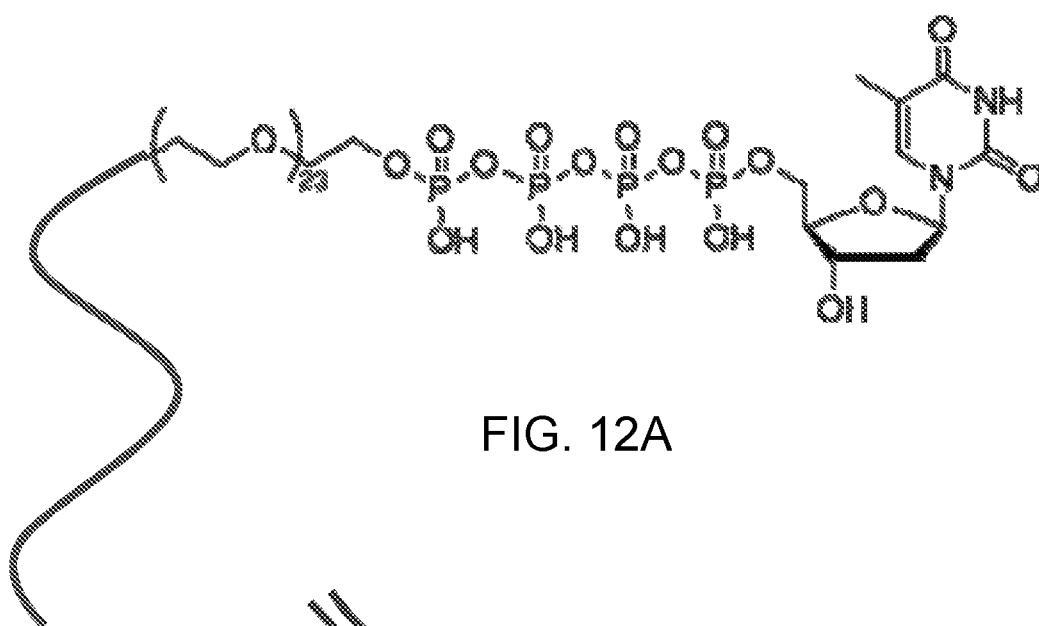


FIG. 12A

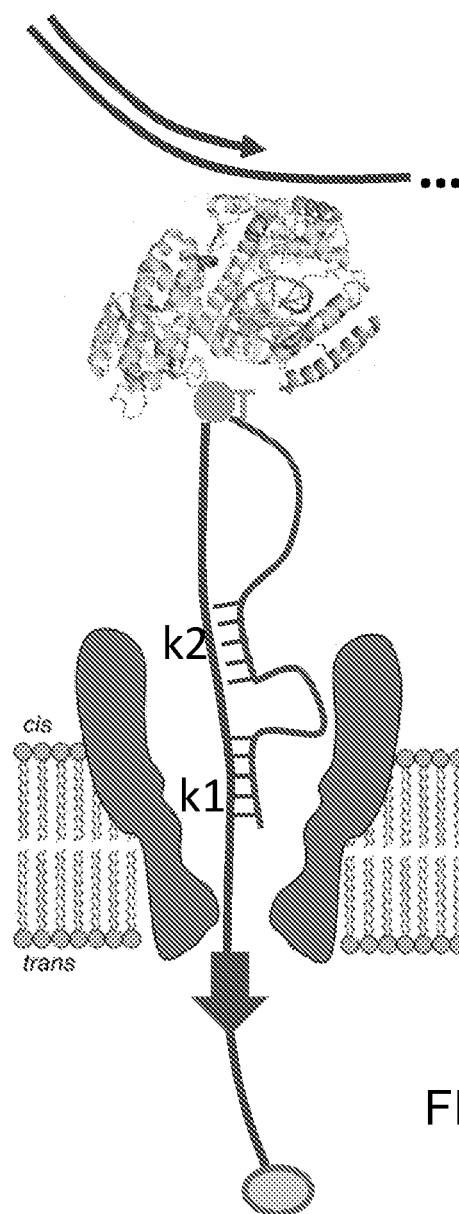


FIG. 12B