

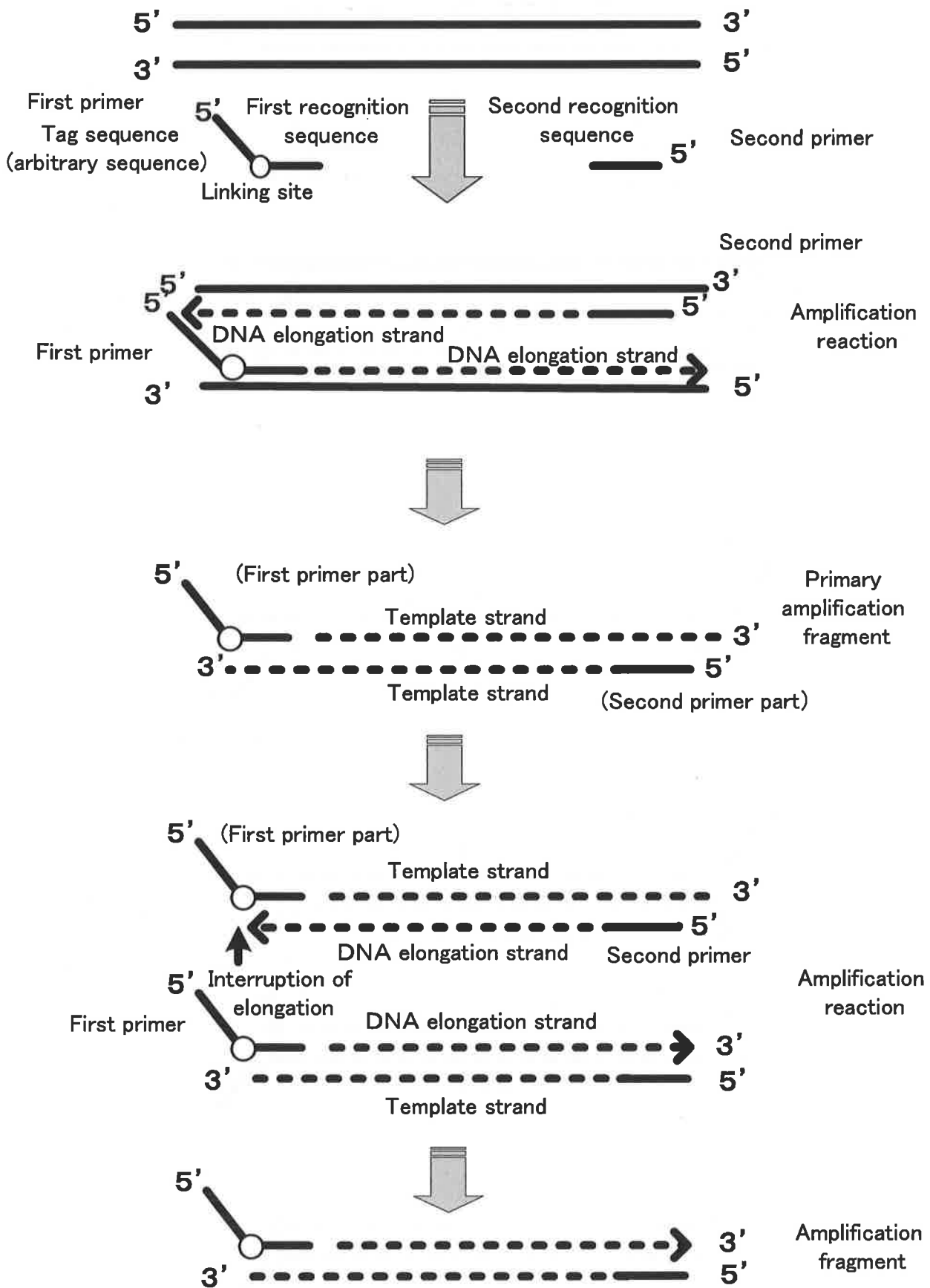


Fig. 1A

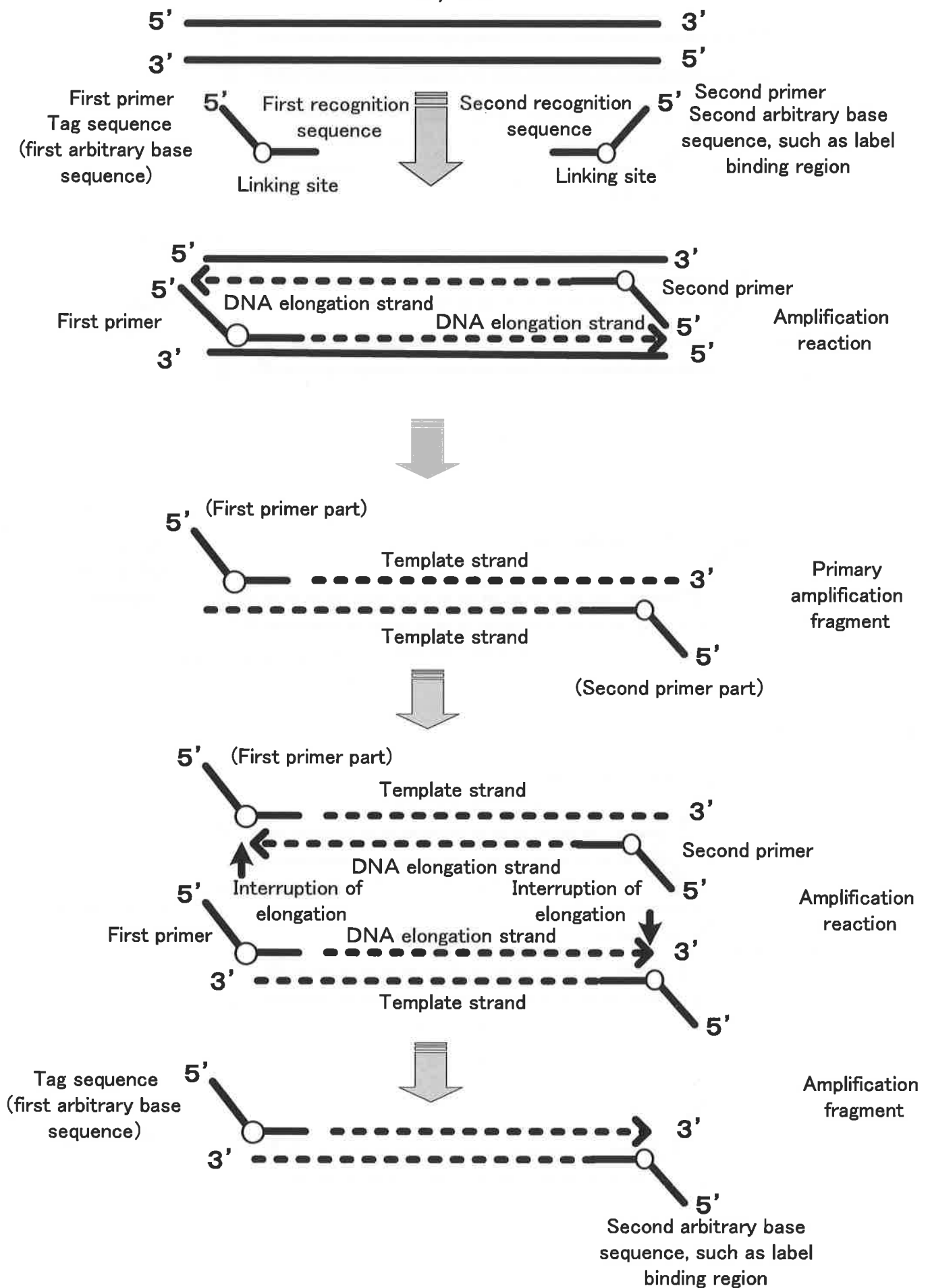


Fig. 1B

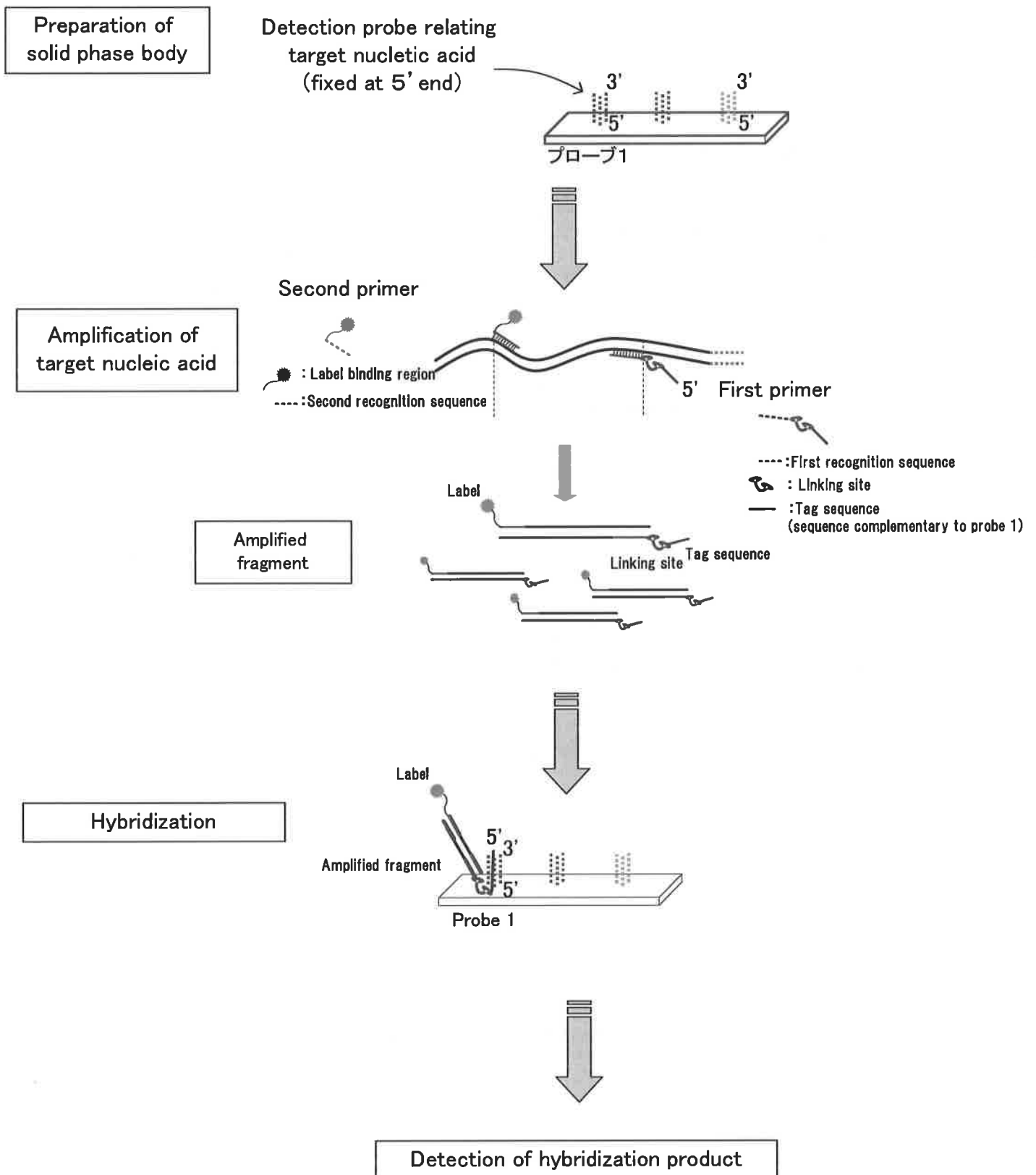


Fig.2A

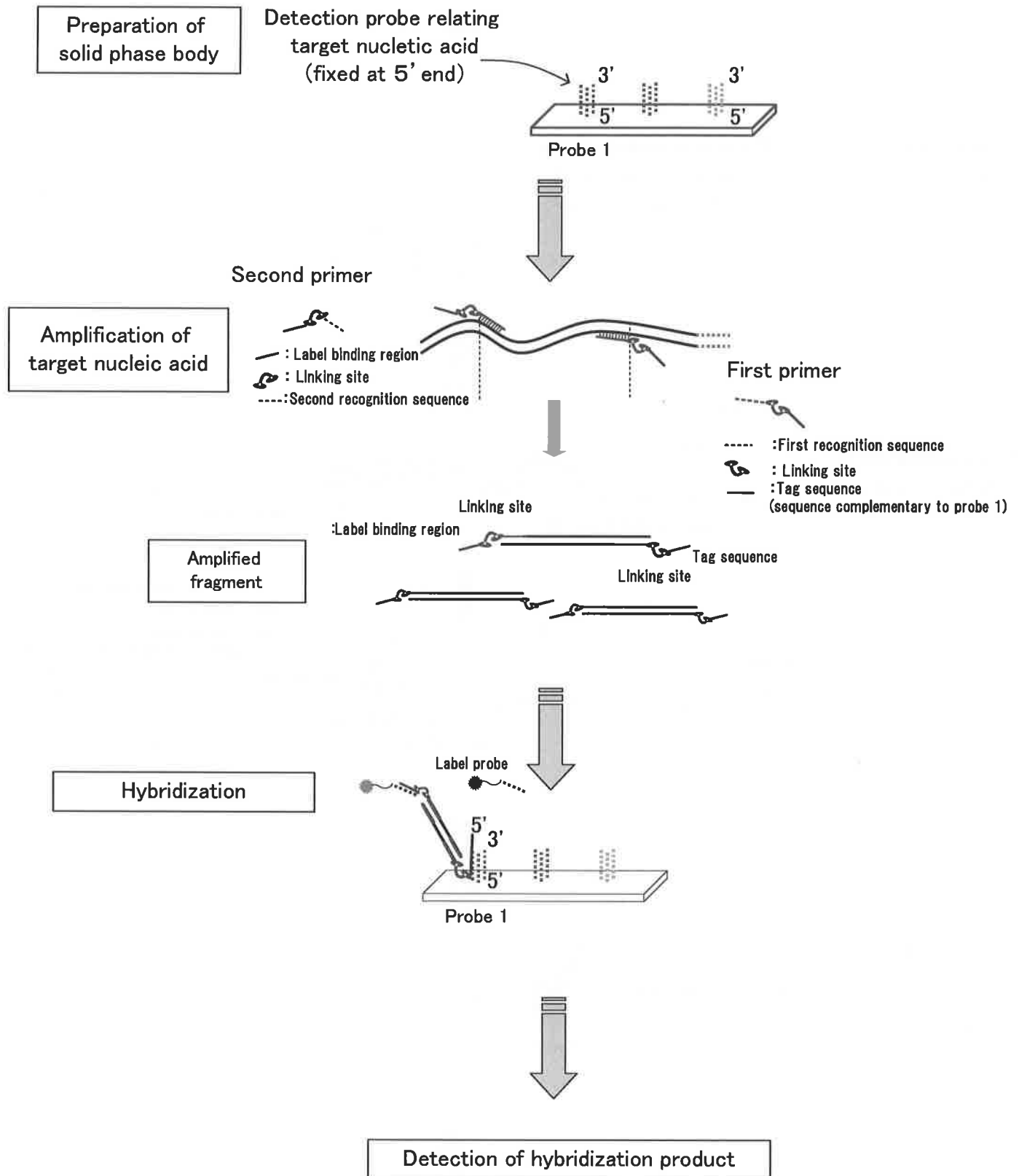


Fig.2B

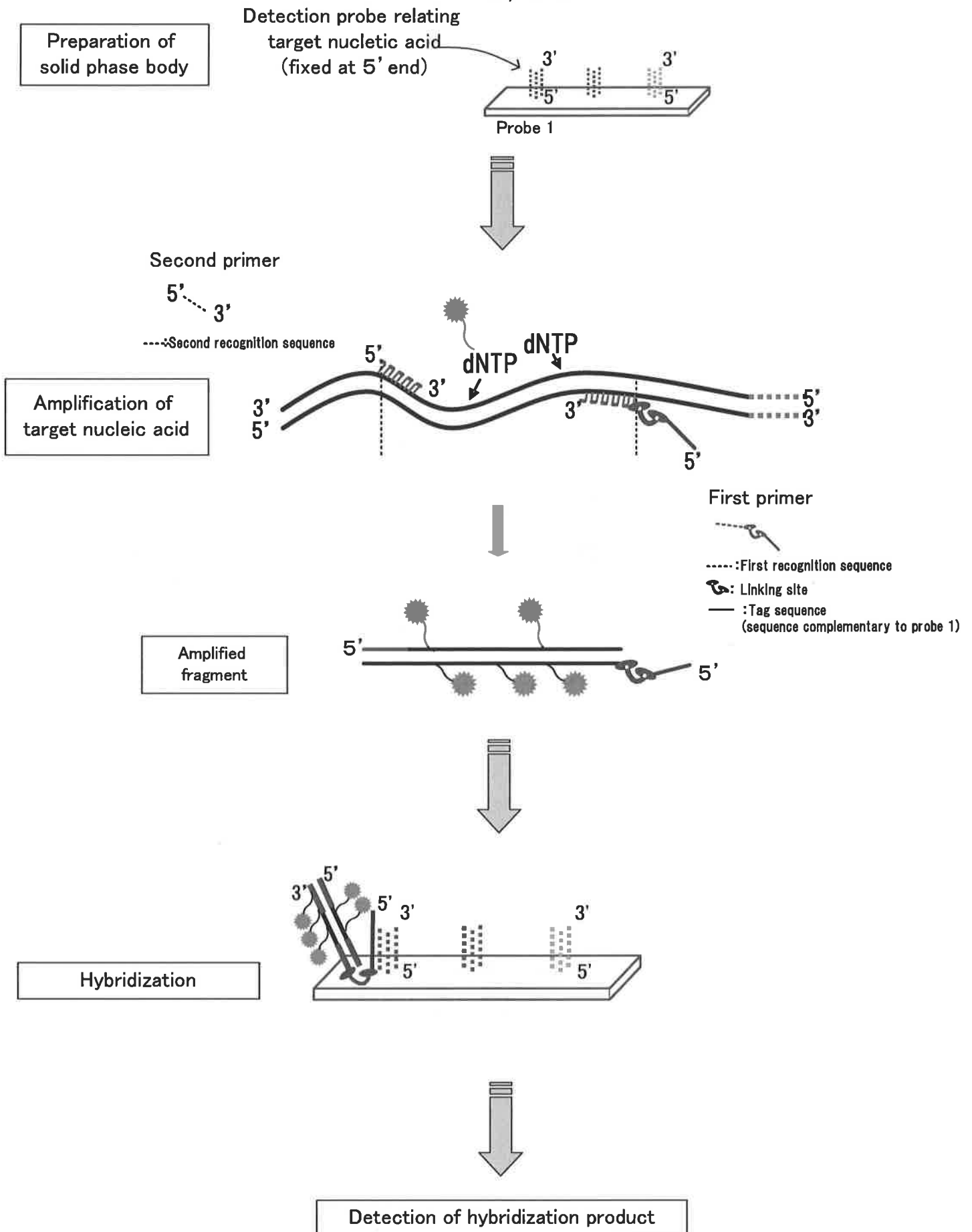


Fig.2C

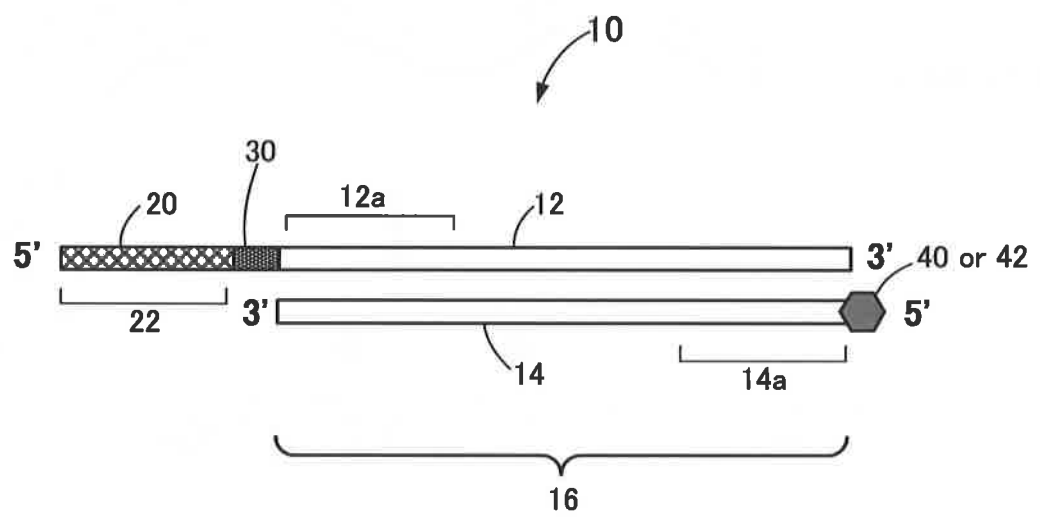


Fig. 3

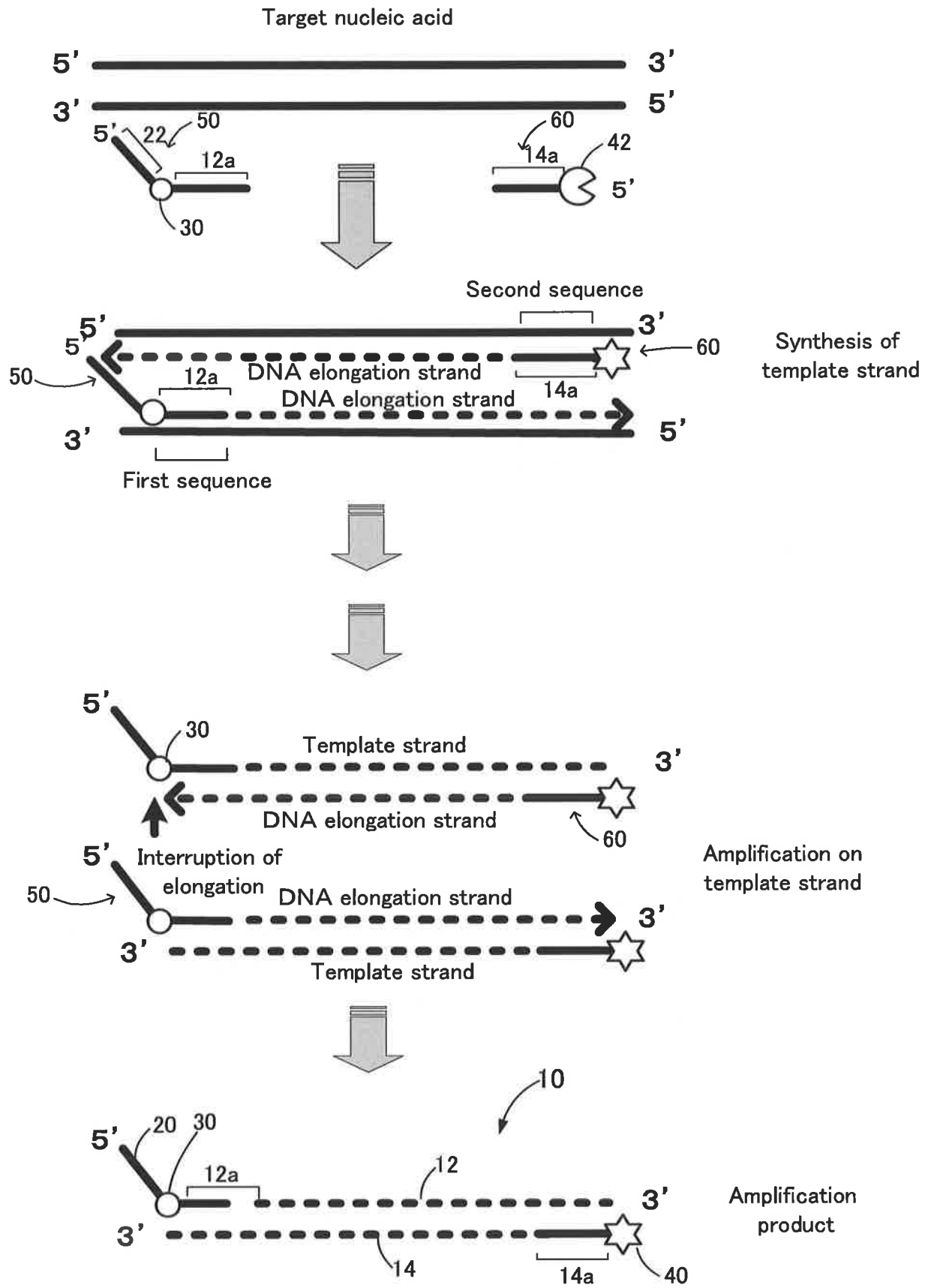


Fig.4

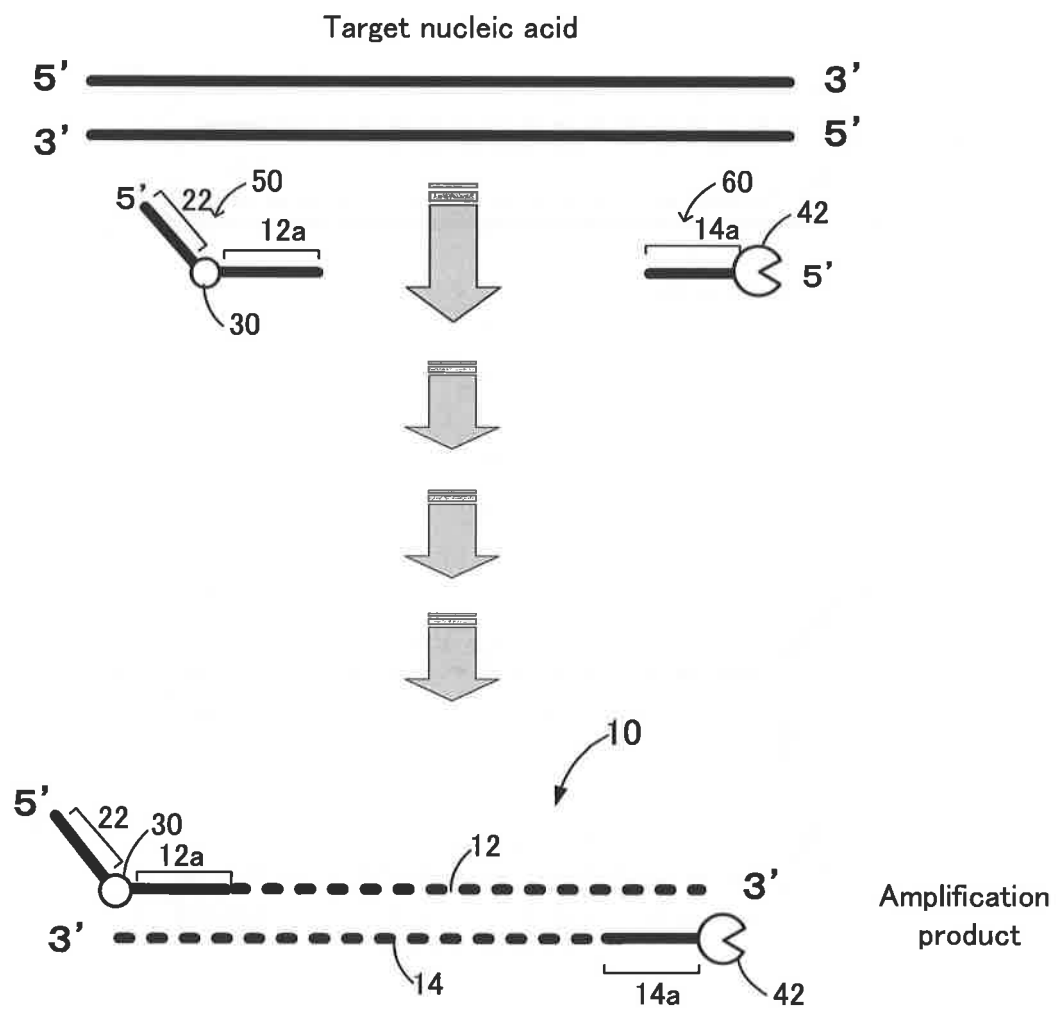


Fig.5

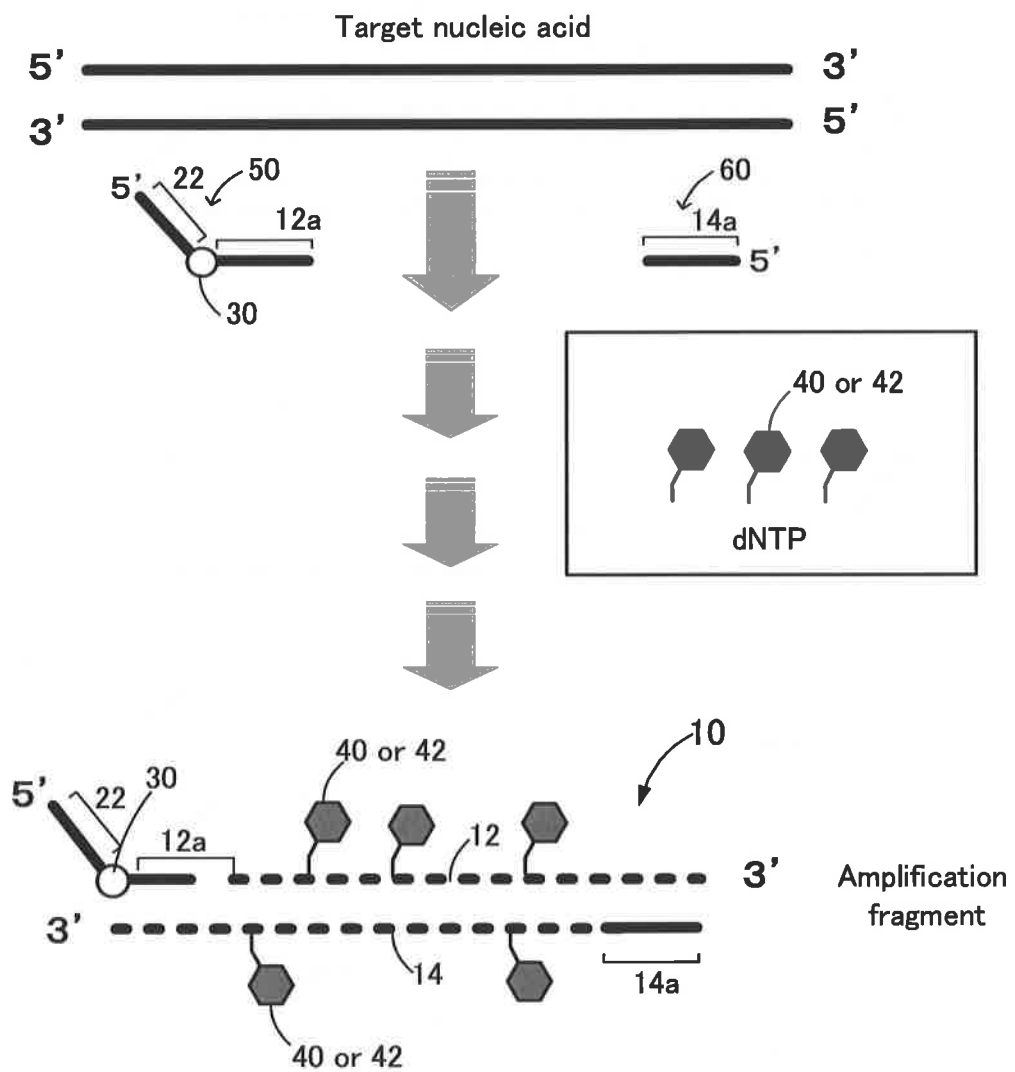


Fig.6

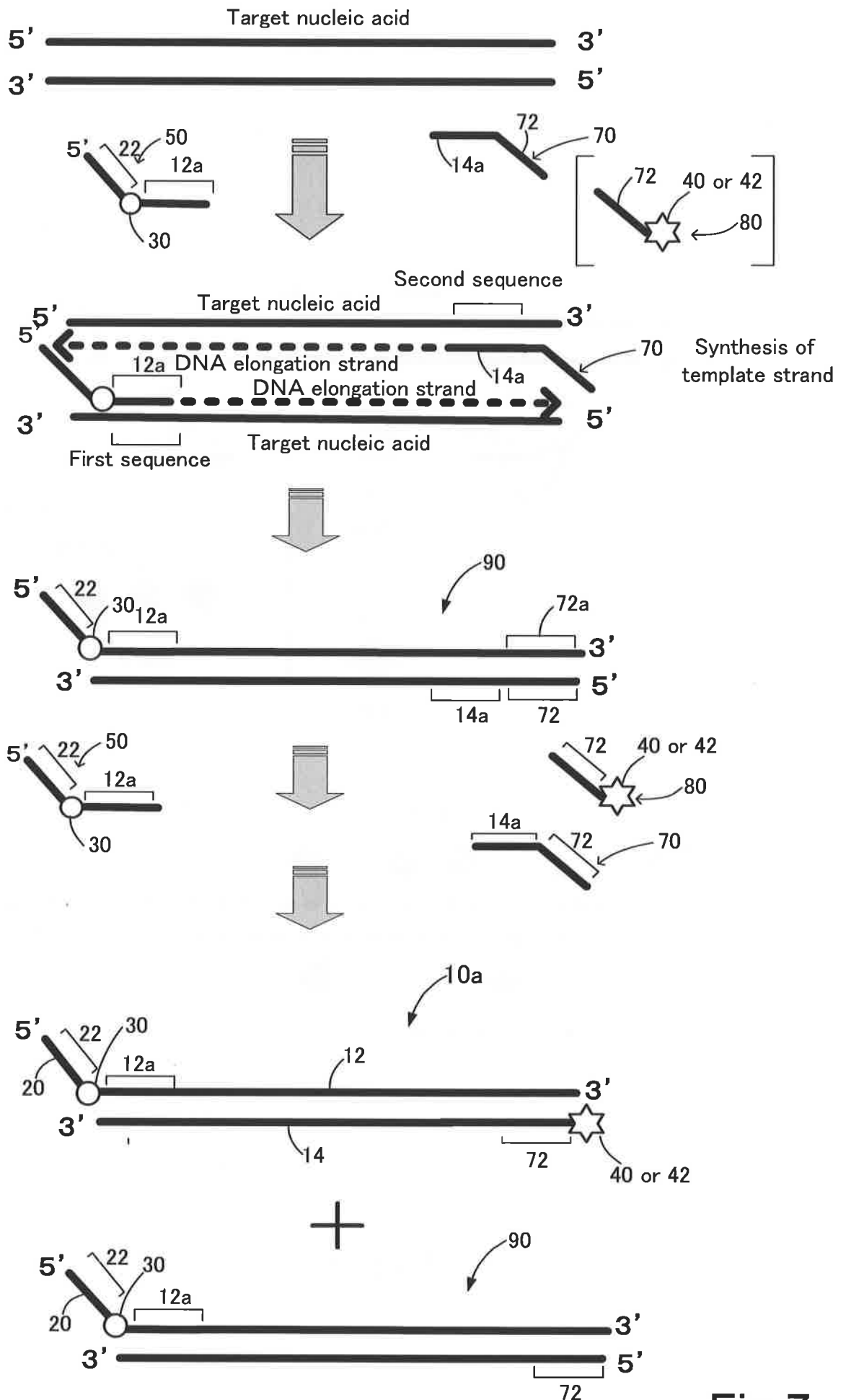


Fig.7



Fig.8

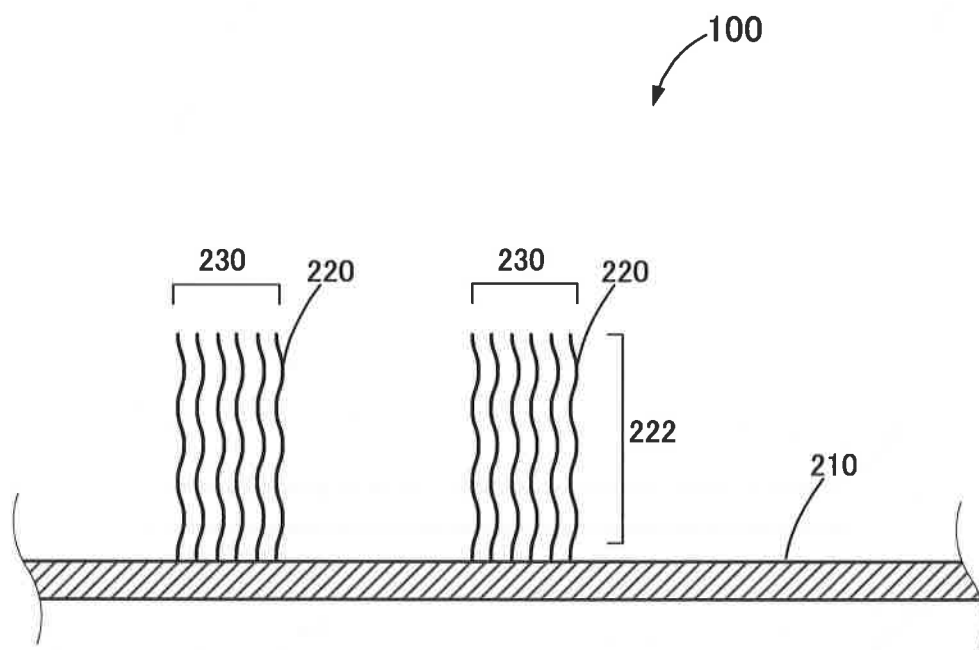


Fig.9

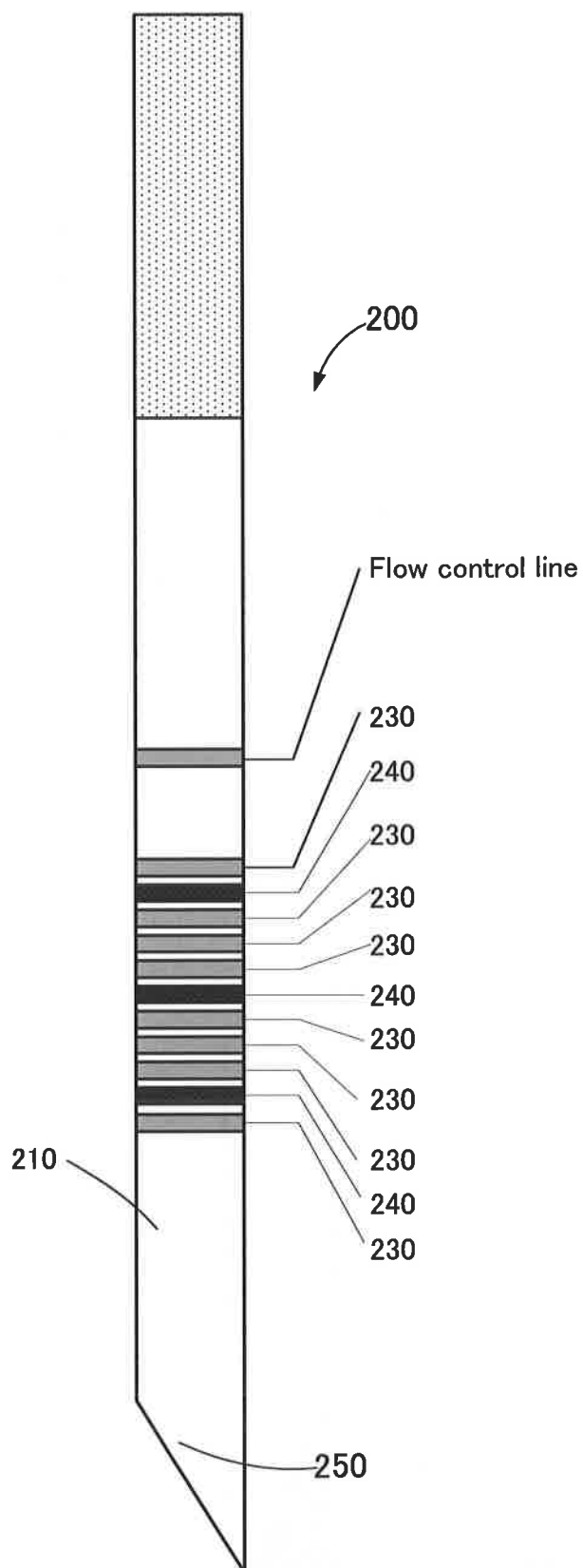


Fig.10

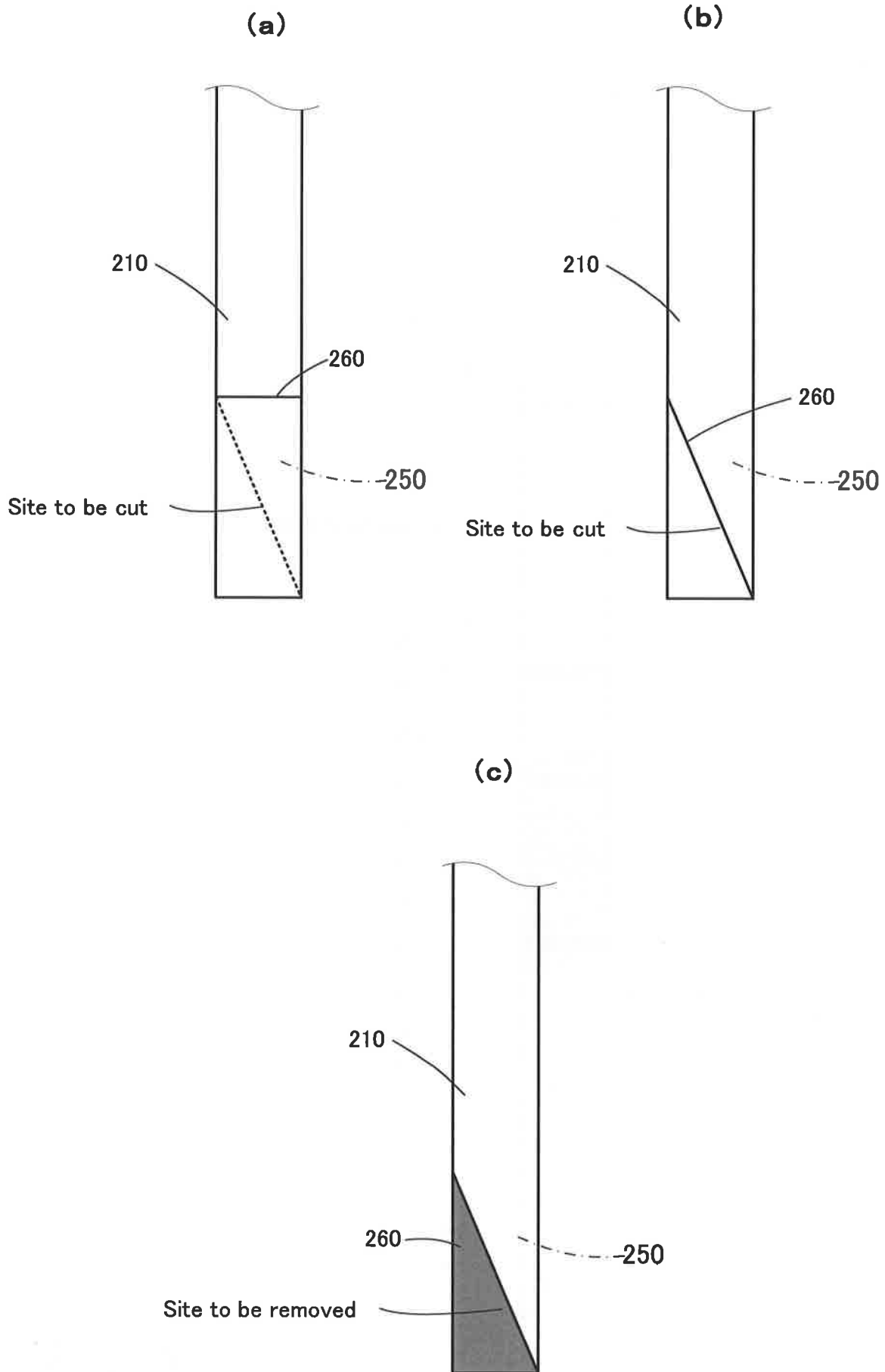
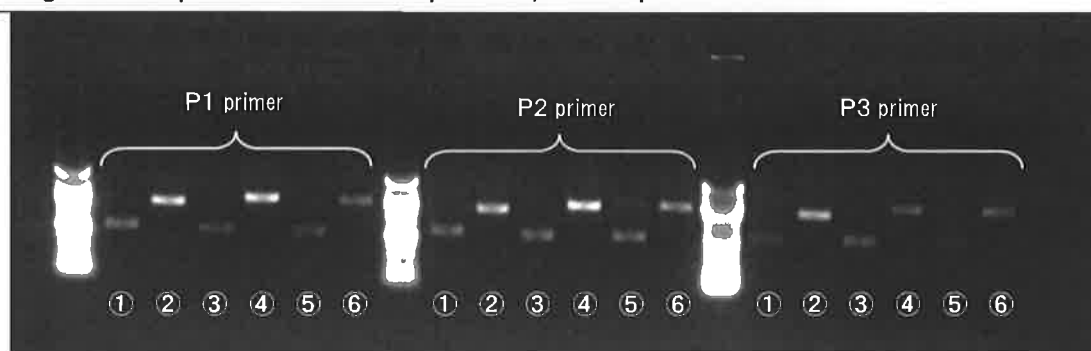


Fig.11

Evaluation of common tag linking method to primer

Image of electrophoresis after PCR Amplification/ column purification



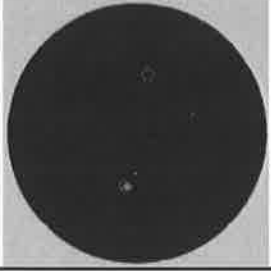
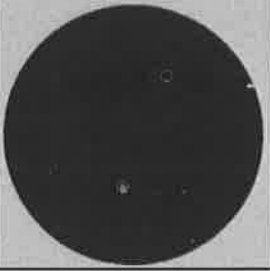
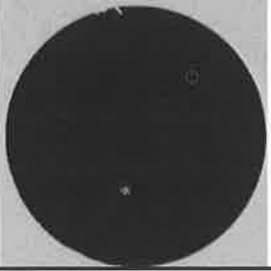
Amount after PCR Amplification/ column purification (amplification was started 25ng/reaction)

primer \ No.		(1) (SNP01)	(2) (SNP03)	(3) (SNP07)	(4) (SNP08)	(5) (SNP09)	(6) (SNP20)
Tag absent:P1		253	308	134	239	162	219
Tag present	P2	156	205	163	266	134	161
	P3	124	209	178	144	140	104

(Unit: ng)

Fig.12

Evaluation of common tag linking method to primer

Tag /method	Tag present/ Direct linking		
primer	(1) + tag 01	(2) + tag 02	(3) + tag 03
Result			

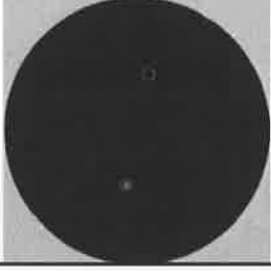
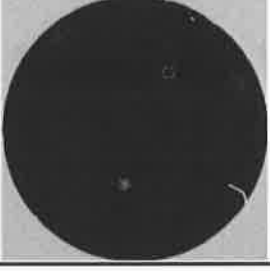
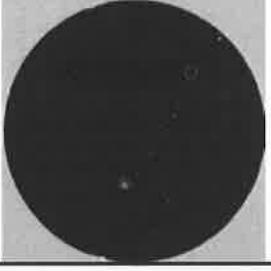
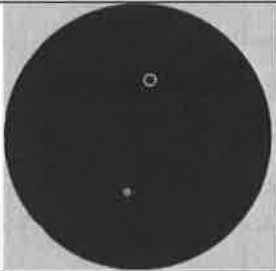
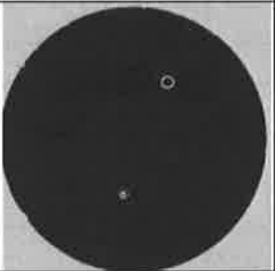
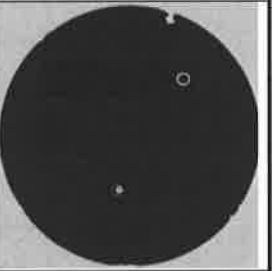
Tag /method	Tag present/ Linking via C3 linking site		
primer	(1)+C3+ tag 01	(2)+C3+ tag 02	(3)+C3+ tag 03
Result			

Fig.13

Evaluation of common tag linking method to primer

Tag /method	Tag present/ Direct linking		
primer	(4)+ tag 04	(5) + tag 05	(6) + tag 06
Result			

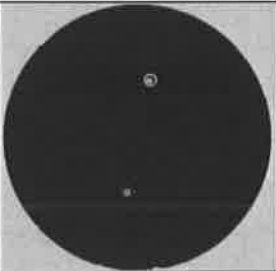
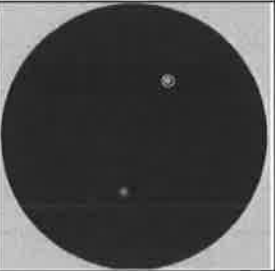
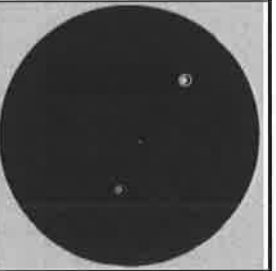
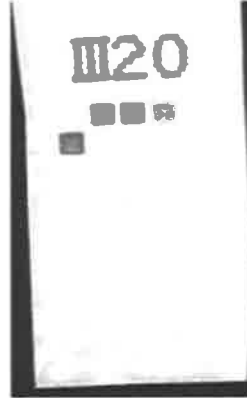
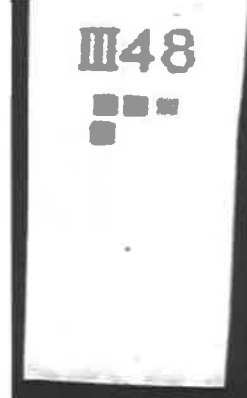
Tag /method	Tag present/ Linking via C3 linking site		
primer	(4)+C3+ tag 04	(5)+C3+ tag 05	(6)+C3+ tag 06
Result			

Fig.14

D1-100	Sample 1	Marker	Sample 2	D1-100
D1-001	D1-002	D1-003	D1-005	D1-006
D1-009	D1-010	D1-011	D1-012	D1-014
D1-015	D1-016	D1-020	D1-023	D1-025
D1-026	D1-027	D1-030	D1-032	D1-035
D1-037	D1-038	D1-040	D1-041	D1-044
D1-045	D1-049	D1-050	D1-051	D1-052
D1-053	D1-062	D1-064	D1-065	D1-077
D1-079	D1-081	D1-084	D1-089	D1-090
D1-100	D1-094	D1-095	D1-097	D1-100

Fig.15

Existing method result	New method result	Expected coloring site																																																		
<p>P2-1 product</p> 	<p>P3-1 product</p> 	<table><tr><th>D1-100</th><th>S1</th><th>M</th><th>S2</th><th>D1-100</th></tr><tr><td>D1-001</td><td>D1-002</td><td>D1-003</td><td>D1-005</td><td>D1-008</td></tr><tr><td>D1-009</td><td>D1-010</td><td>D1-011</td><td>D1-012</td><td>D1-014</td></tr><tr><td>D1-015</td><td>D1-016</td><td>D1-020</td><td>D1-023</td><td>D1-025</td></tr><tr><td>D1-026</td><td>D1-027</td><td>D1-030</td><td>D1-032</td><td>D1-033</td></tr><tr><td>D1-037</td><td>D1-038</td><td>D1-040</td><td>D1-041</td><td>D1-044</td></tr><tr><td>D1-045</td><td>D1-046</td><td>D1-050</td><td>D1-051</td><td>D1-053</td></tr><tr><td>D1-060</td><td>D1-062</td><td>D1-064</td><td>D1-065</td><td>D1-077</td></tr><tr><td>D1-079</td><td>D1-081</td><td>D1-084</td><td>D1-085</td><td>D1-090</td></tr><tr><td>D1-100</td><td>D1-084</td><td>D1-090</td><td>D1-097</td><td>D1-100</td></tr></table>	D1-100	S1	M	S2	D1-100	D1-001	D1-002	D1-003	D1-005	D1-008	D1-009	D1-010	D1-011	D1-012	D1-014	D1-015	D1-016	D1-020	D1-023	D1-025	D1-026	D1-027	D1-030	D1-032	D1-033	D1-037	D1-038	D1-040	D1-041	D1-044	D1-045	D1-046	D1-050	D1-051	D1-053	D1-060	D1-062	D1-064	D1-065	D1-077	D1-079	D1-081	D1-084	D1-085	D1-090	D1-100	D1-084	D1-090	D1-097	D1-100
D1-100	S1	M	S2	D1-100																																																
D1-001	D1-002	D1-003	D1-005	D1-008																																																
D1-009	D1-010	D1-011	D1-012	D1-014																																																
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D1-026	D1-027	D1-030	D1-032	D1-033																																																
D1-037	D1-038	D1-040	D1-041	D1-044																																																
D1-045	D1-046	D1-050	D1-051	D1-053																																																
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D1-079	D1-081	D1-084	D1-085	D1-090																																																
D1-100	D1-084	D1-090	D1-097	D1-100																																																
<p>P2-2 product</p> 	<p>P3-2 product</p> 	<table><tr><th>D1-100</th><th>S1</th><th>M</th><th>S2</th><th>D1-100</th></tr><tr><td>D1-001</td><td>D1-002</td><td>D1-003</td><td>D1-005</td><td>D1-008</td></tr><tr><td>D1-009</td><td>D1-010</td><td>D1-011</td><td>D1-012</td><td>D1-014</td></tr><tr><td>D1-015</td><td>D1-016</td><td>D1-020</td><td>D1-023</td><td>D1-025</td></tr><tr><td>D1-026</td><td>D1-027</td><td>D1-030</td><td>D1-032</td><td>D1-033</td></tr><tr><td>D1-037</td><td>D1-038</td><td>D1-040</td><td>D1-041</td><td>D1-044</td></tr><tr><td>D1-045</td><td>D1-046</td><td>D1-050</td><td>D1-051</td><td>D1-053</td></tr><tr><td>D1-060</td><td>D1-062</td><td>D1-064</td><td>D1-065</td><td>D1-077</td></tr><tr><td>D1-079</td><td>D1-081</td><td>D1-084</td><td>D1-085</td><td>D1-090</td></tr><tr><td>D1-100</td><td>D1-084</td><td>D1-090</td><td>D1-097</td><td>D1-100</td></tr></table>	D1-100	S1	M	S2	D1-100	D1-001	D1-002	D1-003	D1-005	D1-008	D1-009	D1-010	D1-011	D1-012	D1-014	D1-015	D1-016	D1-020	D1-023	D1-025	D1-026	D1-027	D1-030	D1-032	D1-033	D1-037	D1-038	D1-040	D1-041	D1-044	D1-045	D1-046	D1-050	D1-051	D1-053	D1-060	D1-062	D1-064	D1-065	D1-077	D1-079	D1-081	D1-084	D1-085	D1-090	D1-100	D1-084	D1-090	D1-097	D1-100
D1-100	S1	M	S2	D1-100																																																
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D1-009	D1-010	D1-011	D1-012	D1-014																																																
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D1-026	D1-027	D1-030	D1-032	D1-033																																																
D1-037	D1-038	D1-040	D1-041	D1-044																																																
D1-045	D1-046	D1-050	D1-051	D1-053																																																
D1-060	D1-062	D1-064	D1-065	D1-077																																																
D1-079	D1-081	D1-084	D1-085	D1-090																																																
D1-100	D1-084	D1-090	D1-097	D1-100																																																

S1:Sample1
M:Marker
S2:Sample2

Fig.16

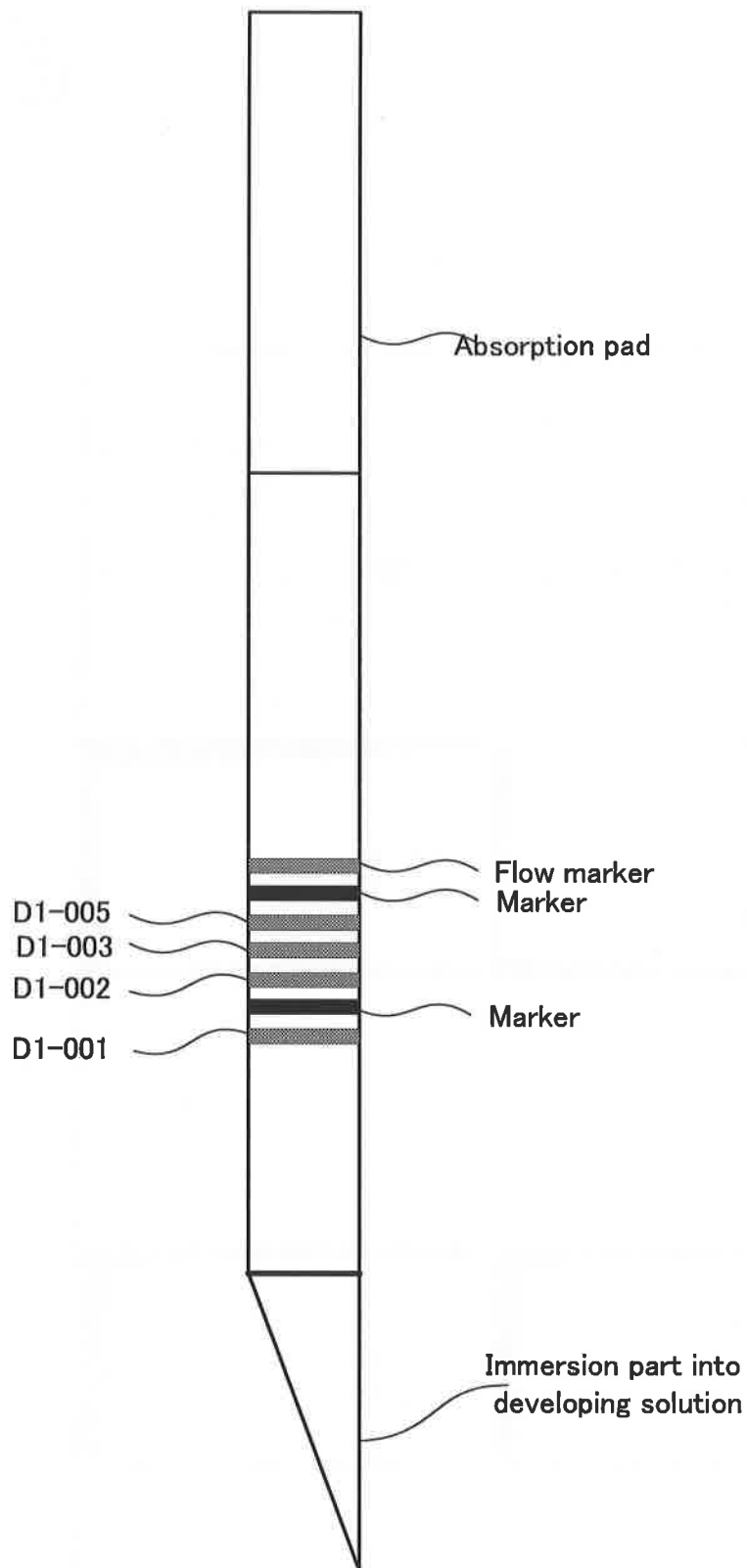


Fig.17

Existing method Result	New method Result	Expected coloring site
Fragment 2-① 	Fragment 3-① 	 <p>Coloring site (control) Coloring site (expeted) Cutting line marker</p>
Fragment 2-② 	Fragment 3-② 	 <p>Coloring site (control) Coloring site (expeted) Cutting line marker</p>

Fig.18

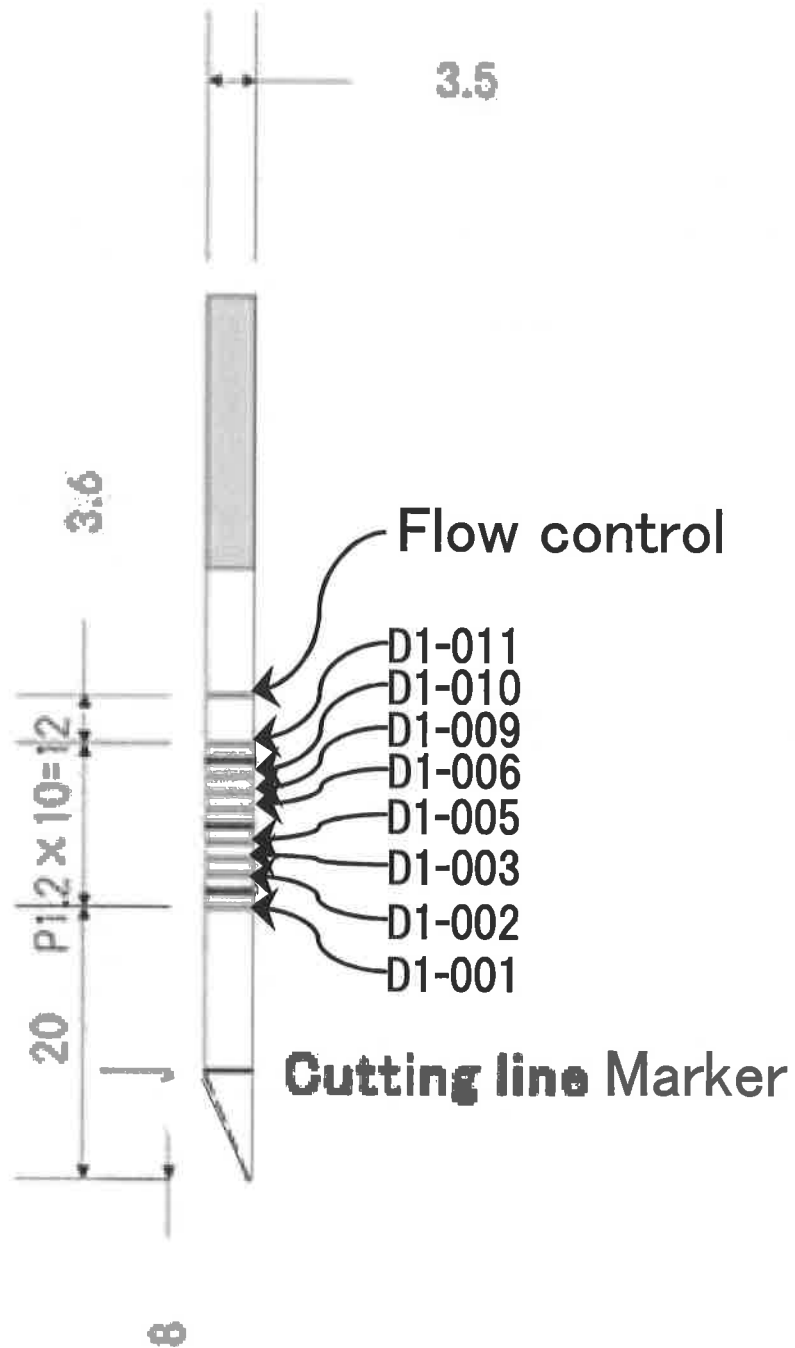


Fig.19

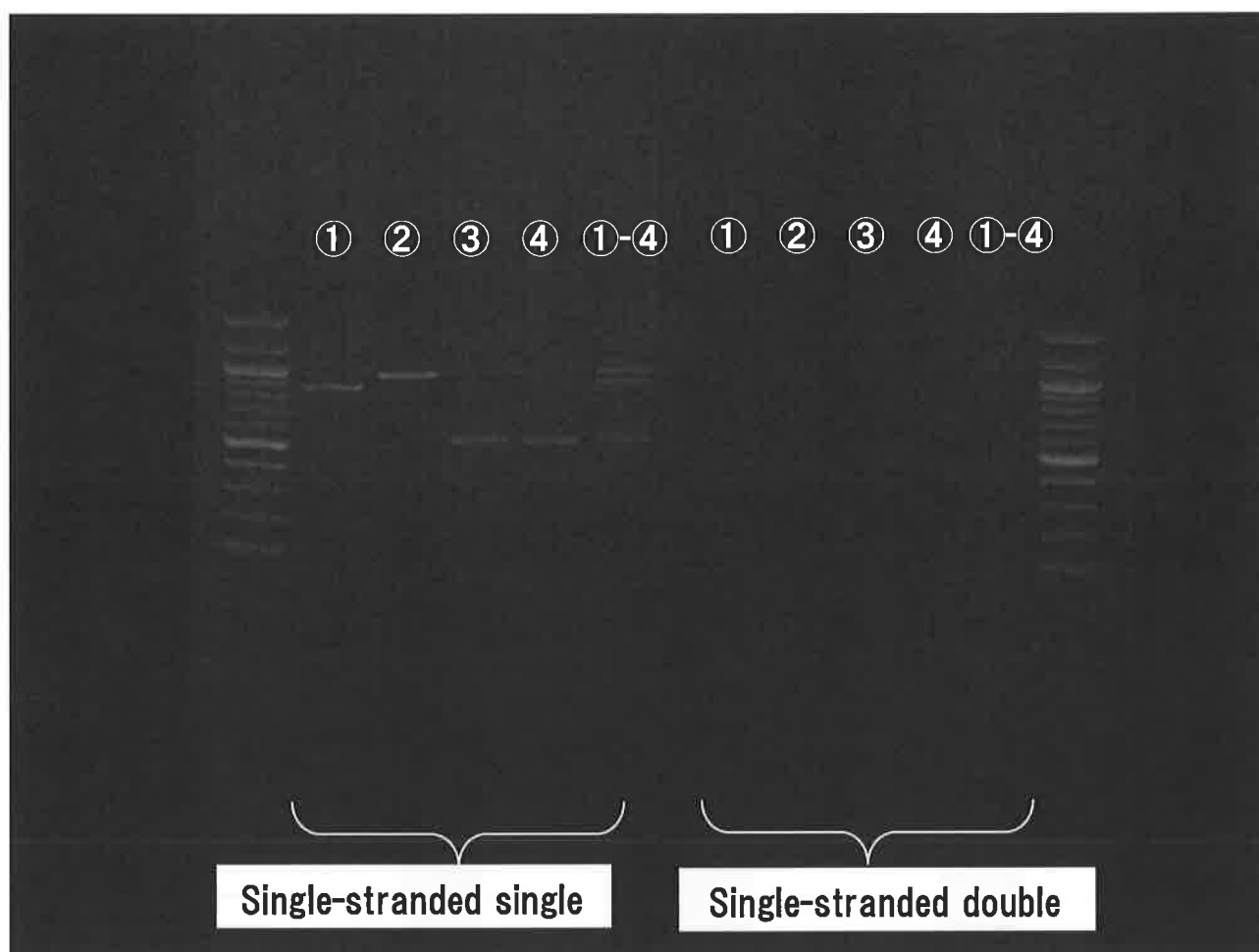


Fig.20

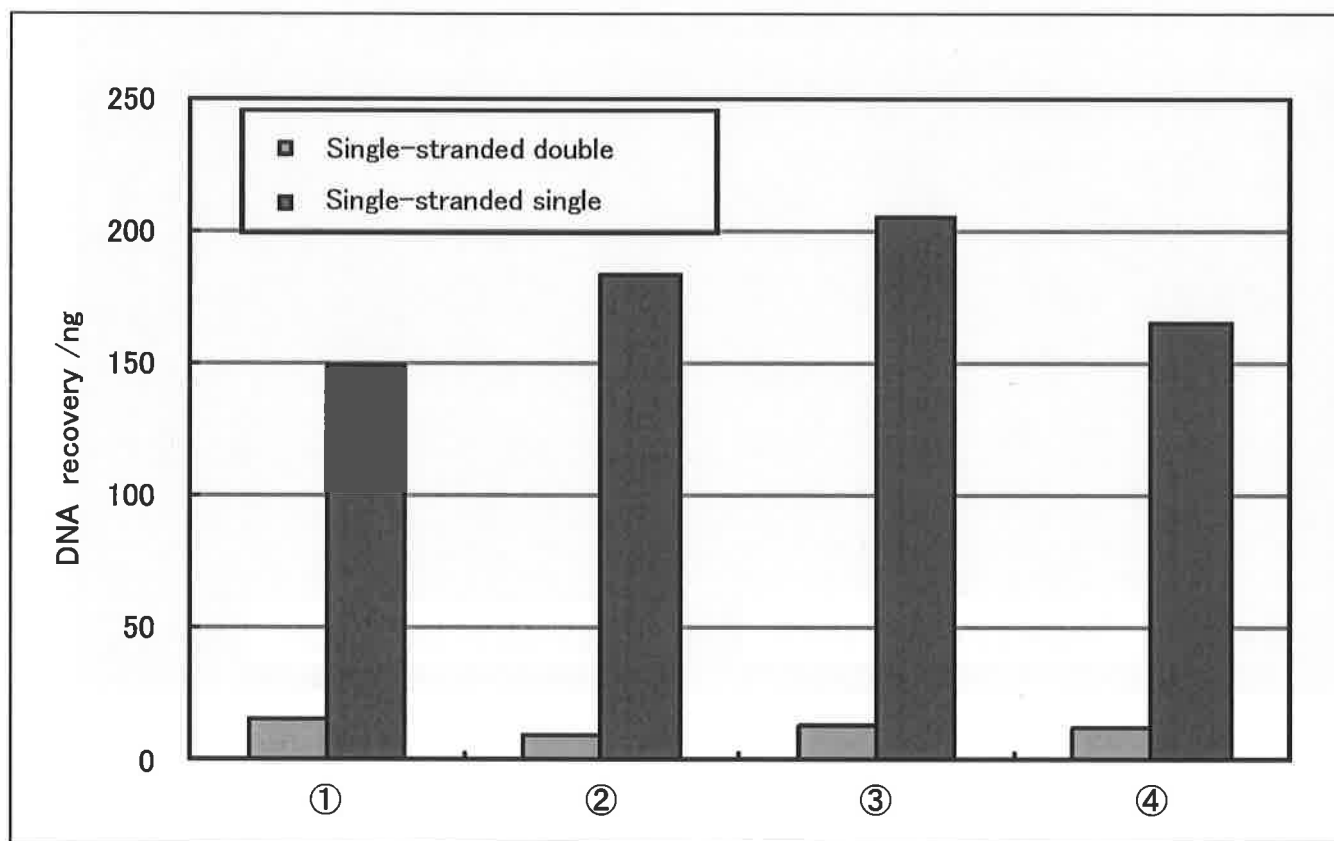


Fig.21

Fig.22

<p>Single-stranded double</p> <p>F-Tag R- Label tag</p>	<p>Diagram showing a single-stranded double tag with dimensions: 3.5, 3.6, 20, $P1/2 \times 10 = 12$, and 8. Labels include: Flow control, D1-011, D1-010, D1-009, D1-008, D1-007, D1-006, D1-005, D1-004, D1-003, D1-002, D1-001, and Cutting line marker.</p>	Double 1	Double 2	Double 3	Double 4	Double 1-4
<p>Single-stranded single</p> <p>F-Tag R- Label tag</p>	<p>Diagram showing a single-stranded single tag with dimensions: 3.5, 3.6, 20, $P1/2 \times 10 = 12$, and 8. Labels include: Flow control, D1-011, D1-010, D1-009, D1-008, D1-007, D1-006, D1-005, D1-004, D1-003, D1-002, D1-001, and Cutting line marker.</p>	Single 1	Single 2	Single 3	Single 4	Single 1-4

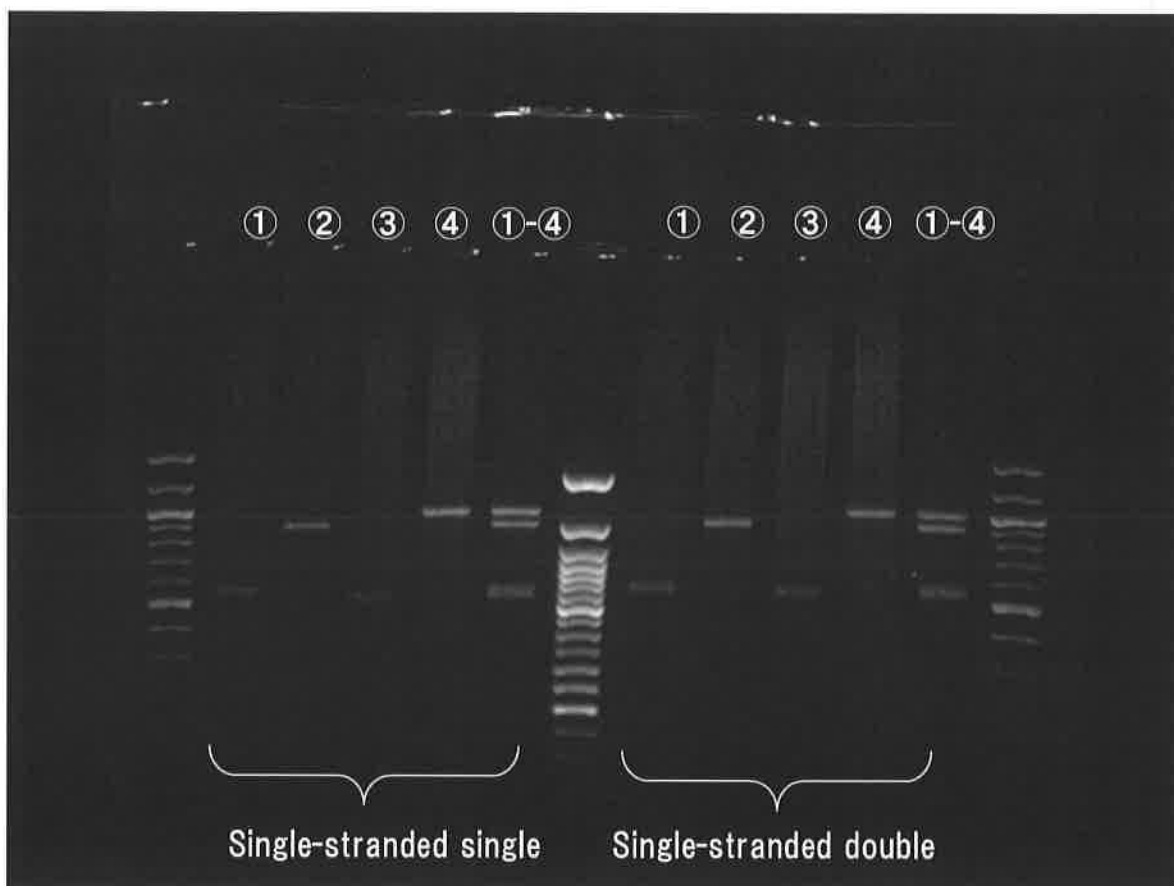


Fig.23

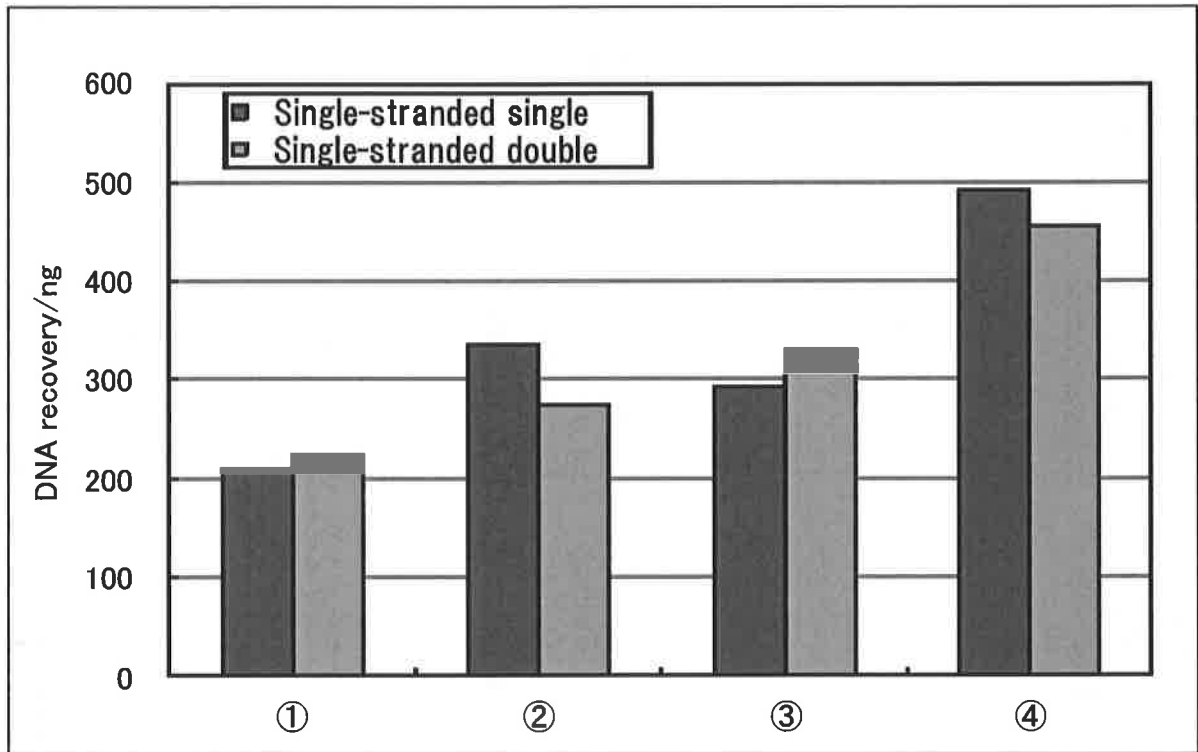


Fig.24

Fig.25

Single single-stranded		Single single-stranded①	Single single-stranded②	Single single-stranded③	Single single-stranded④	Single single-stranded ① ~ ④
Double single-stranded		Double single-stranded①	Double single-stranded②	Double single-stranded③	Double single-stranded④	Double single-stranded① ~ ④

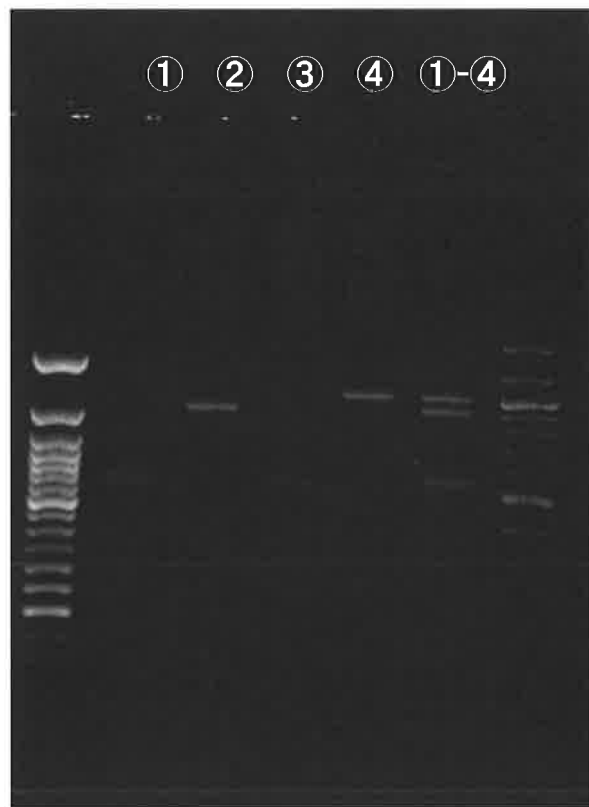


Fig.26

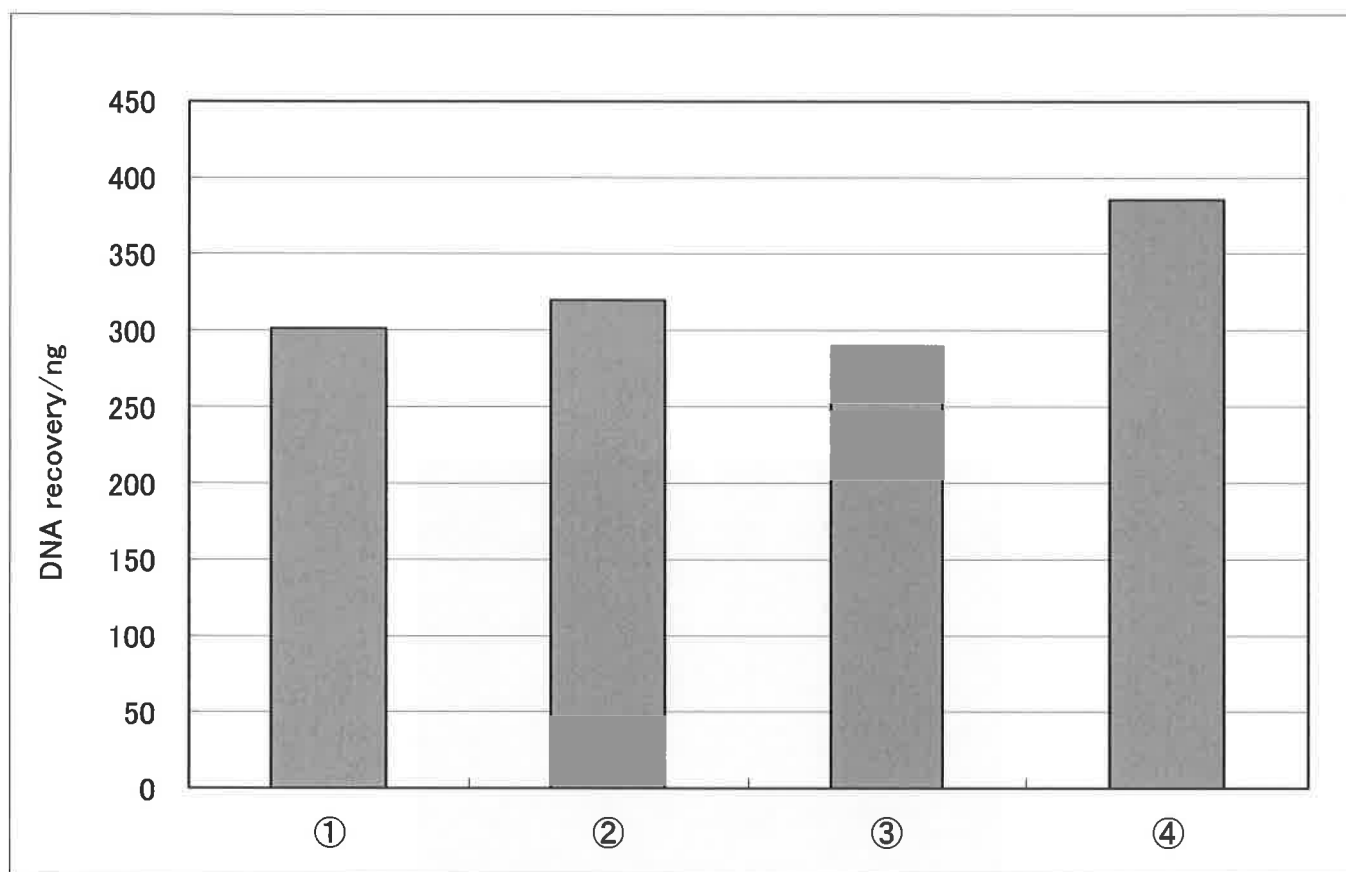


Fig.27

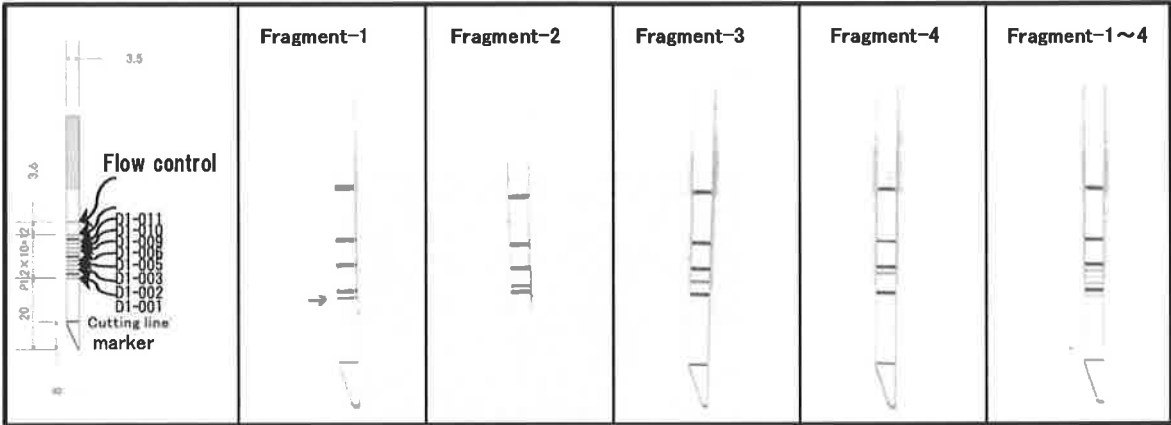


Fig.28



Fig.29

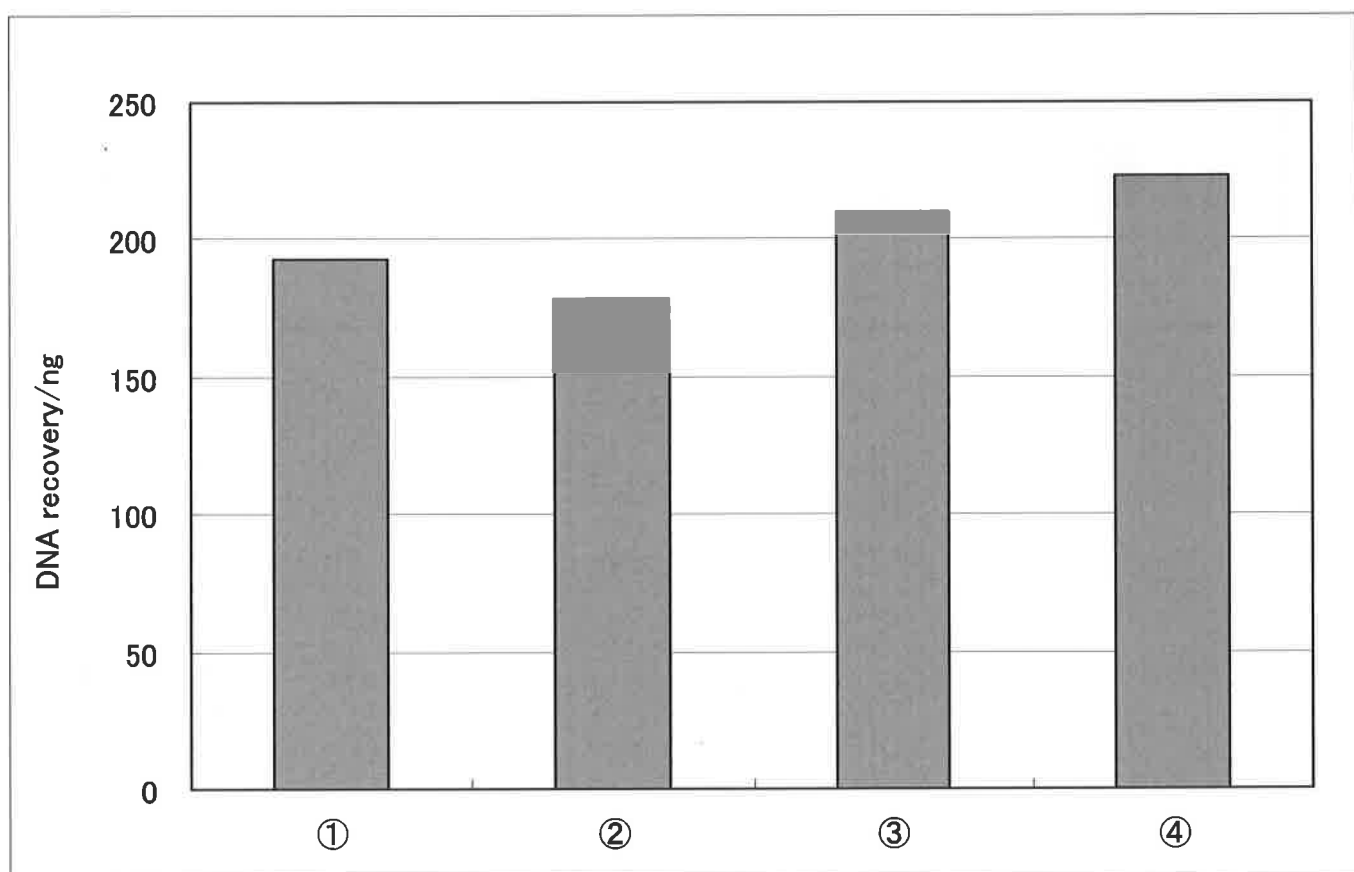


Fig.30

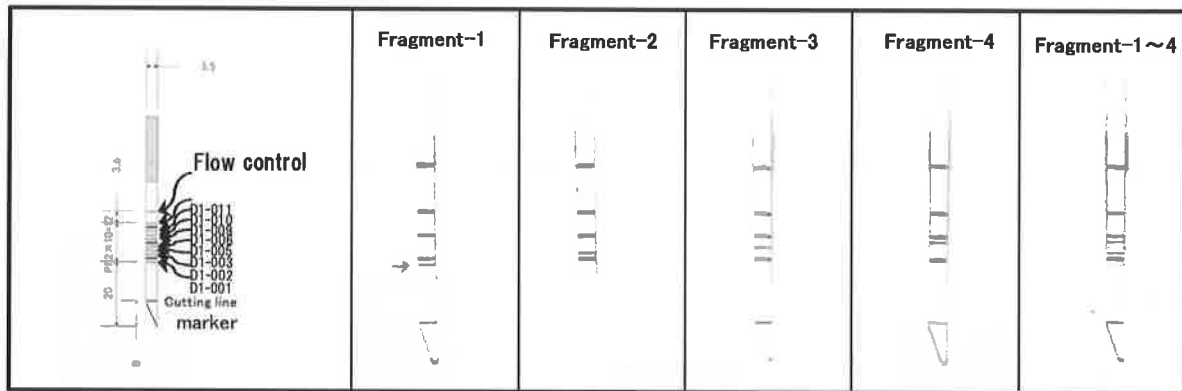


Fig.31