FIG 1

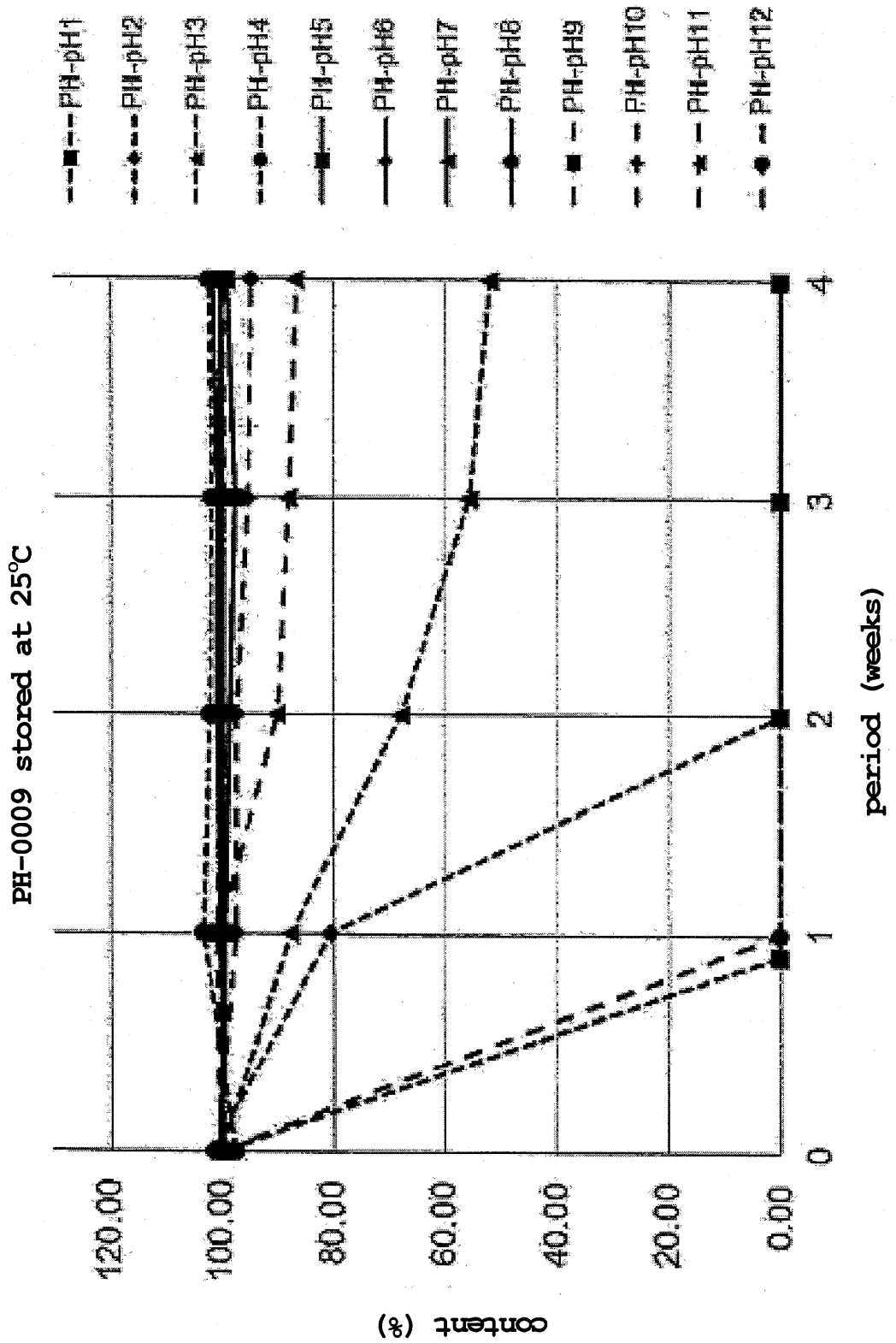

PH-0009 stored at 25°C
PH-pH1
PH-pH2
PH-pH3
PH-pH4
PH-pH5
PH-pH6
PH-pH7
PH-pH8
PH-pH9
PH-pH10
PH-pH11
PH-pH12
120.00
100.00
80.00
60.00
40.00
20.00
0.00
content (%)
0
1
2
3
4
period (weeks)

FIG 2

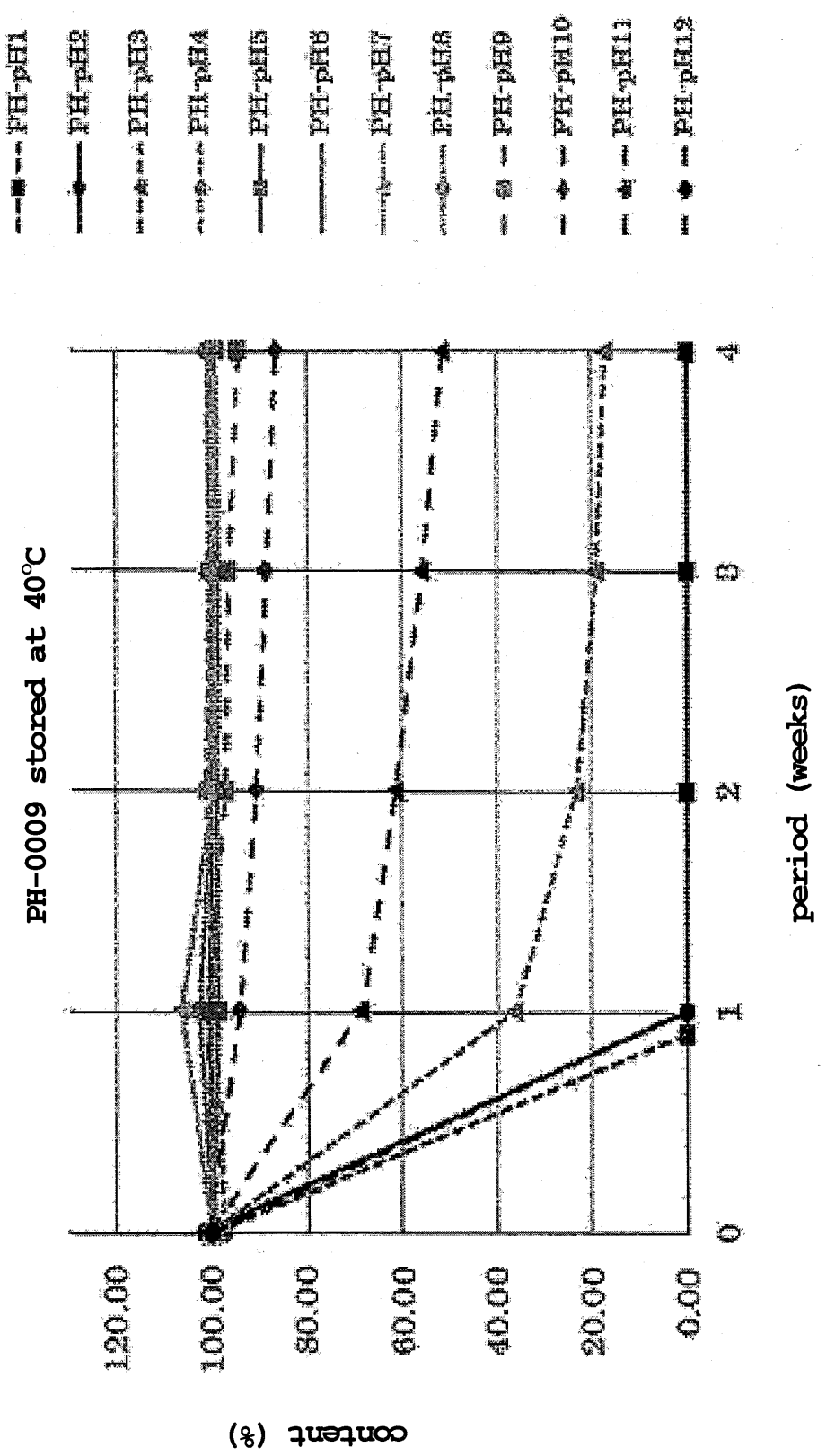

PH-0009 stored at 40°C
content (%)
period (weeks)
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0
1
2
3
4
PH-pH1
PH-pH2
PH-pH3
PH-pH4
PH-pH5
PH-pH6
PH-pH7
PH-pH8
PH-pH9
PH-pH10
PH-pH11
PH-pH12

FIG 3

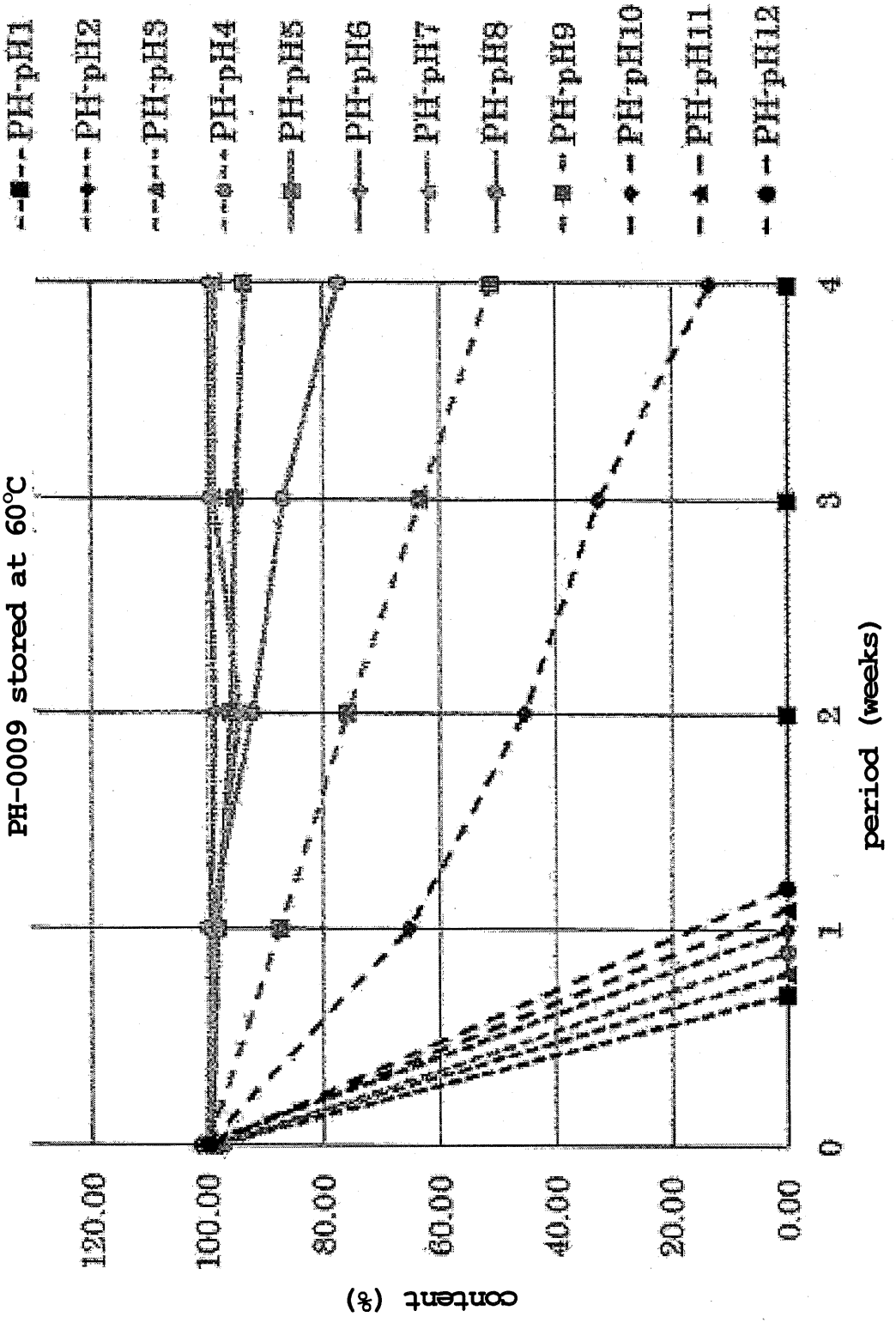

PH-0009 stored at 60℃
PH-pH1
PH-pH2
PH-pH3
PH-pH4
PH-pH5
PH-pH6
PH-pH7
PH-pH8
PH-pH9
PH-pH10
PH-pH11
PH-pH12
120.00
100.00
80.00
60.00
40.00
20.00
0.00
content (%)
0
1
2
3
4
period (weeks)

FIG 4

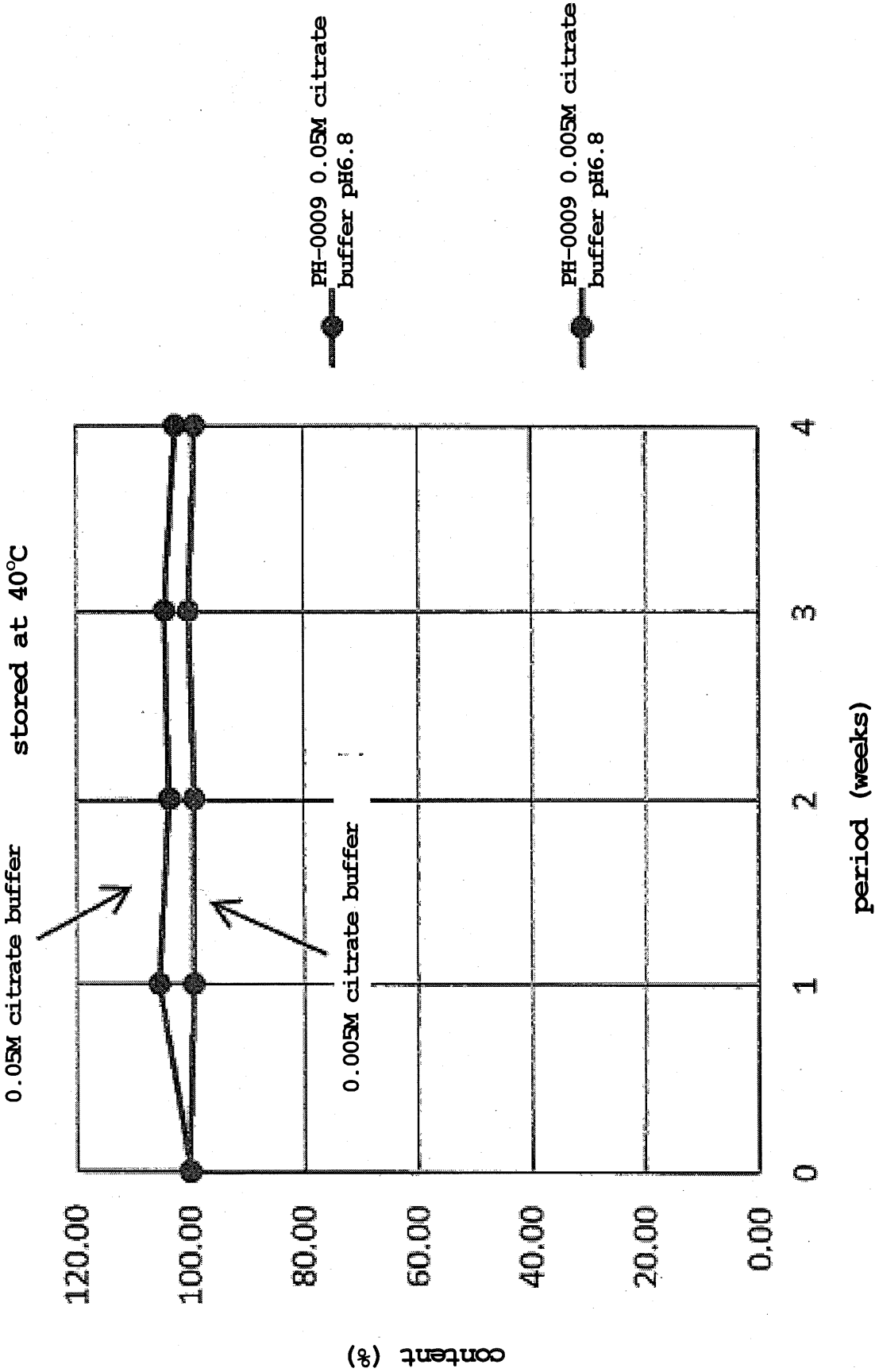

stored at 40°C
0.05M citrate buffer
0.005M citrate buffer
PH-0009 0.05M citrate buffer pH6.8
PH-0009 0.005M citrate buffer pH6.8
content (%)
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0
1
2
3
4
period (weeks)

FIG 5

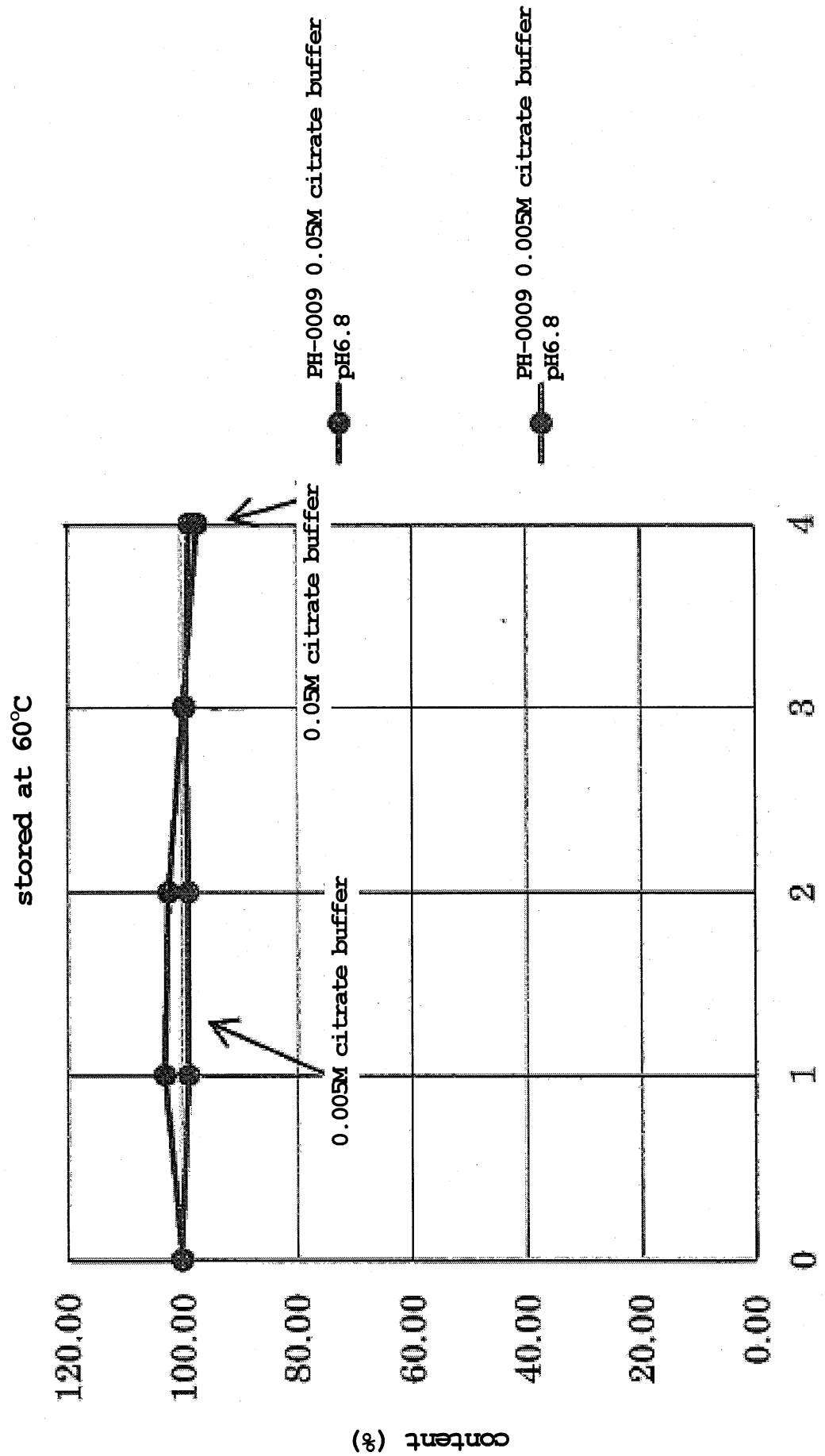

stored at 60°C
PH-0009 0.05M citrate buffer pH6.8
PH-0009 0.005M citrate buffer pH6.8
0.05M citrate buffer
0.005M citrate buffer
content (%)
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0
1
2
3
4
period (weeks)

FIG 6

PH-0009 formulation 44 (0.05M citrate buffer (pH6.5) (10 mg/mL)
storage stability

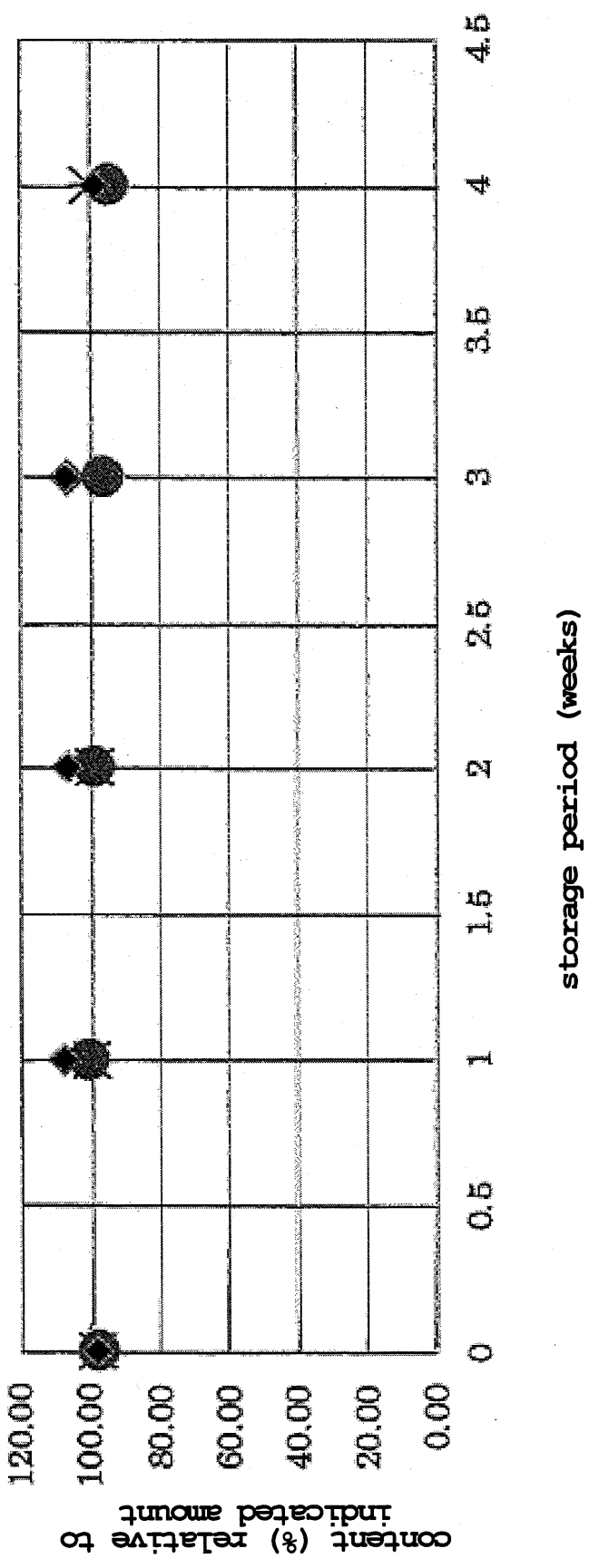
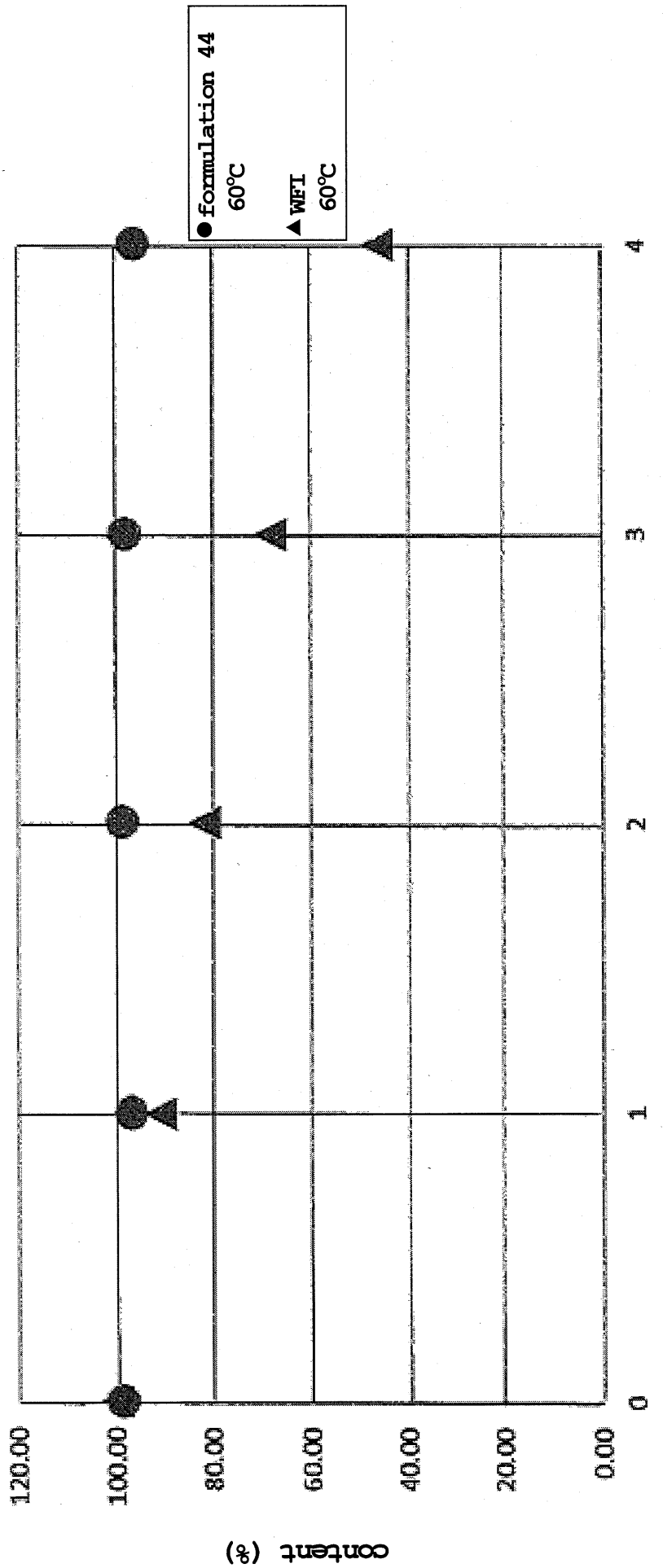
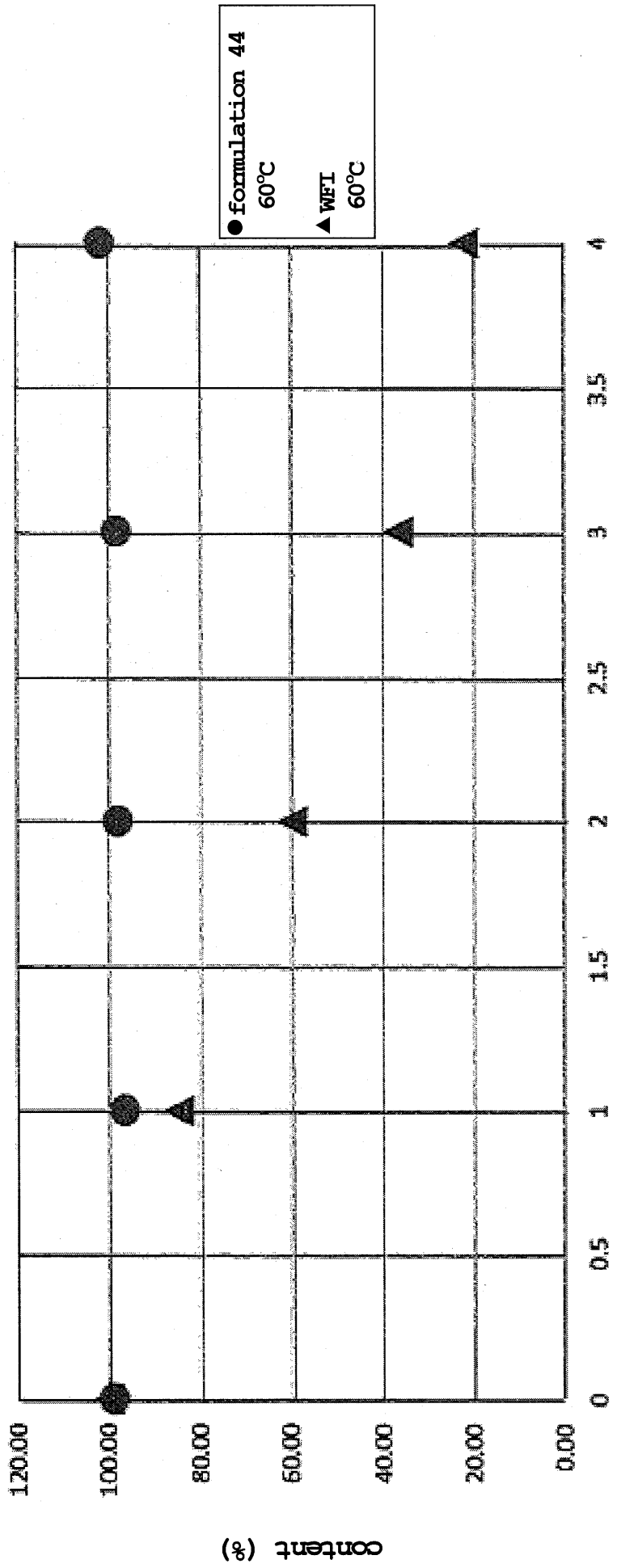


FIG 7



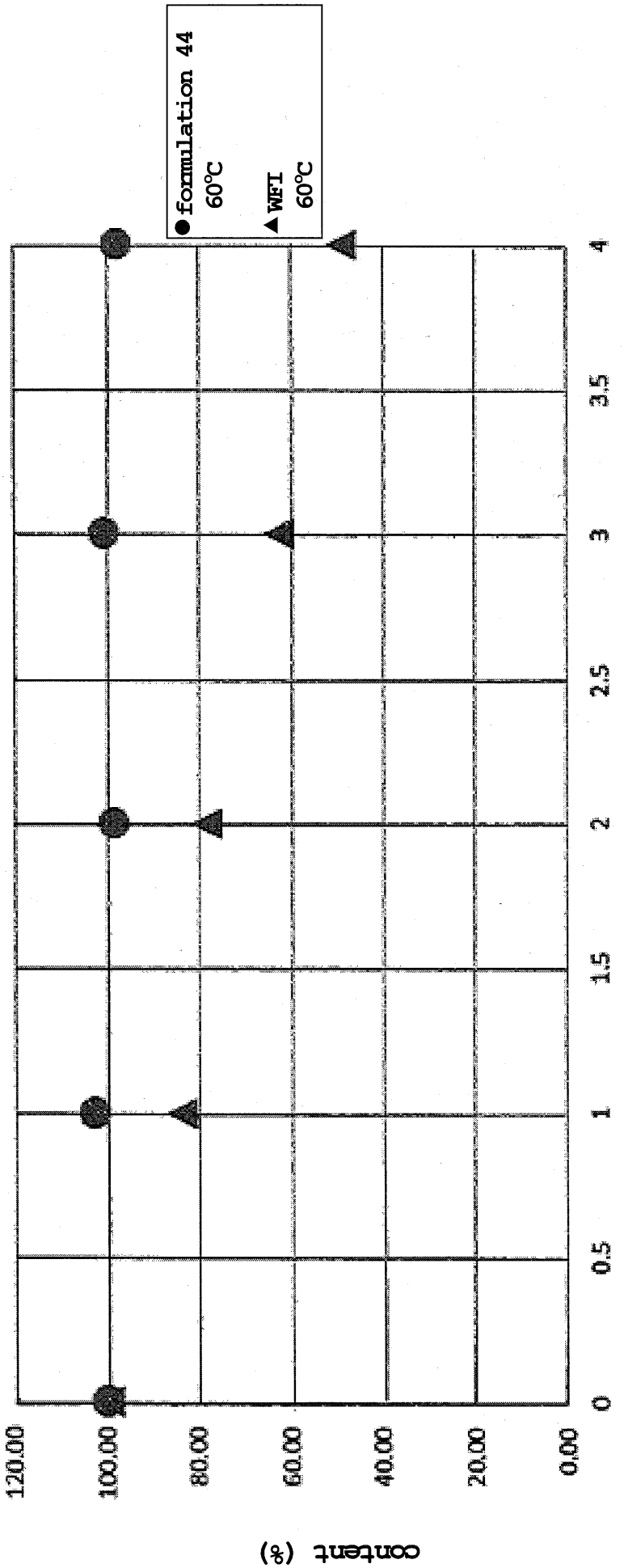
Nk: NK-7006 (luciferase, L2 sequence) 62 bases

FIG 8



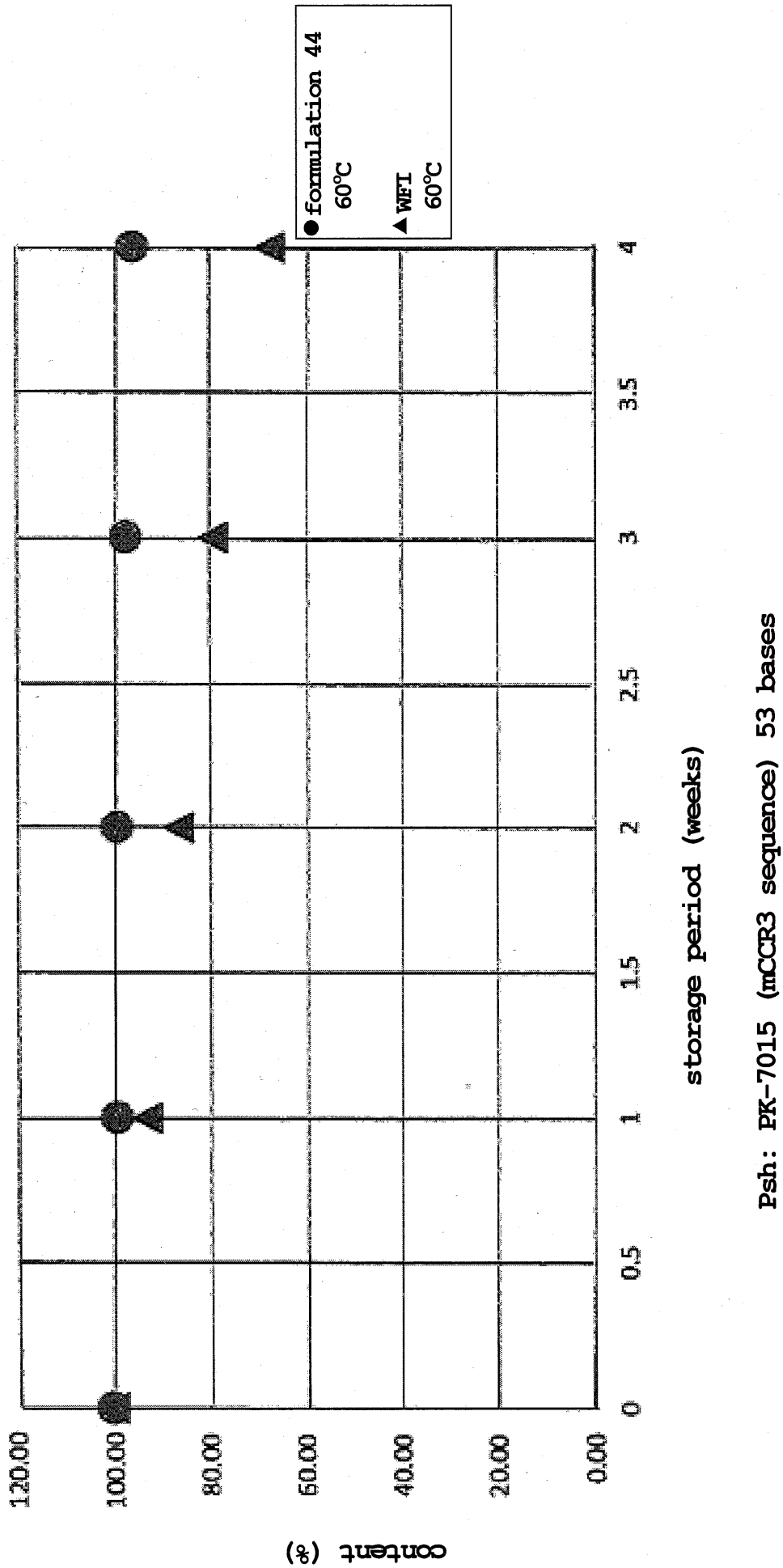
Nk: NK-7007 (mGAPDH sequence) 62 bases

FIG 9



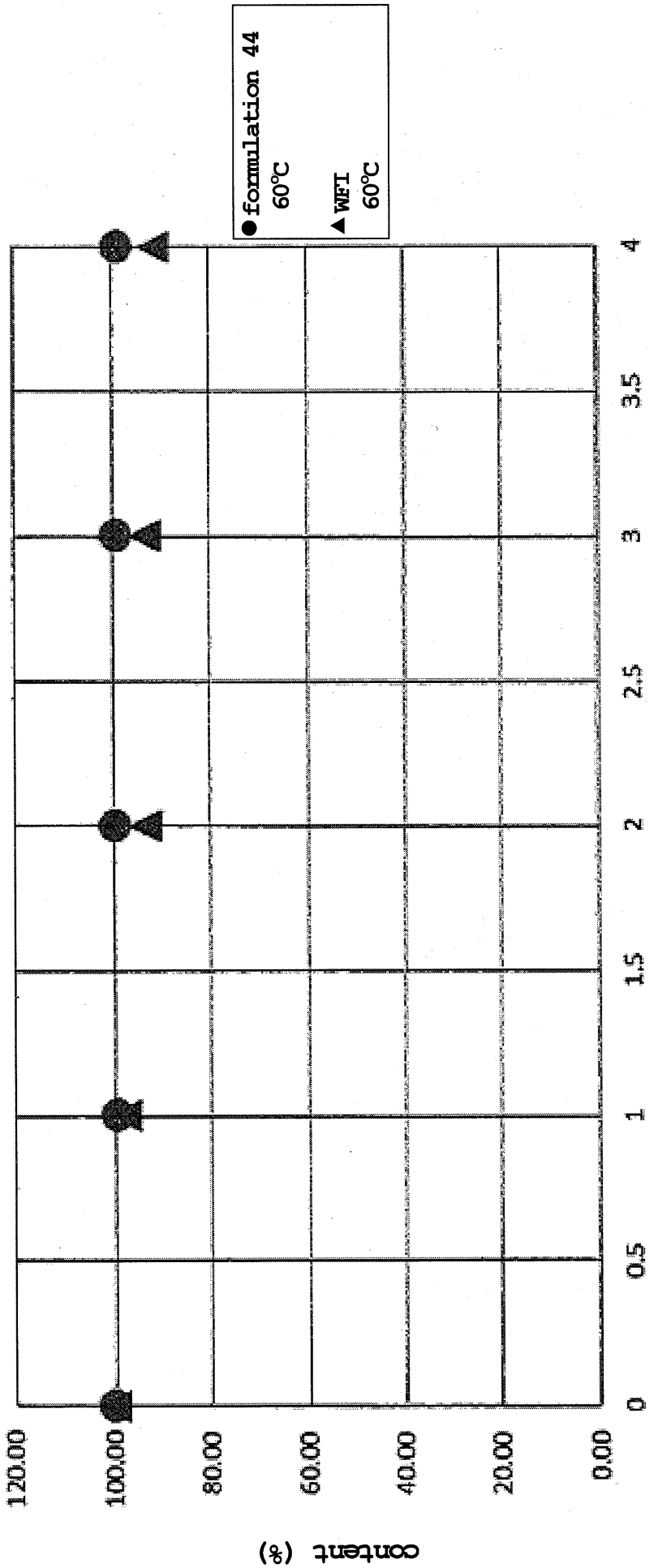
Pnk: PK-7006 (mTGF-β1 sequence) 53 bases

FIG 10



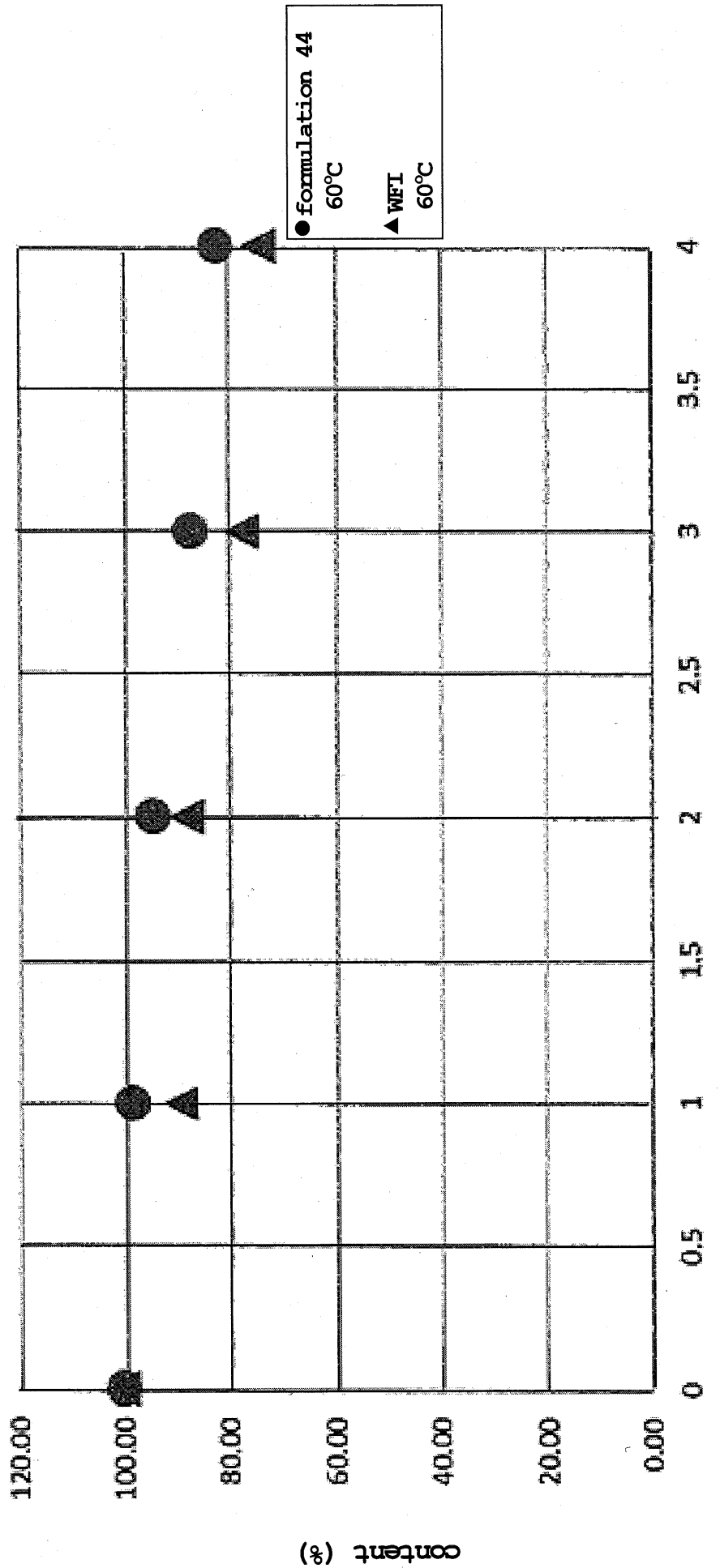
Psh: PK-7015 (mCCR3 sequence) 53 bases

FIG 11



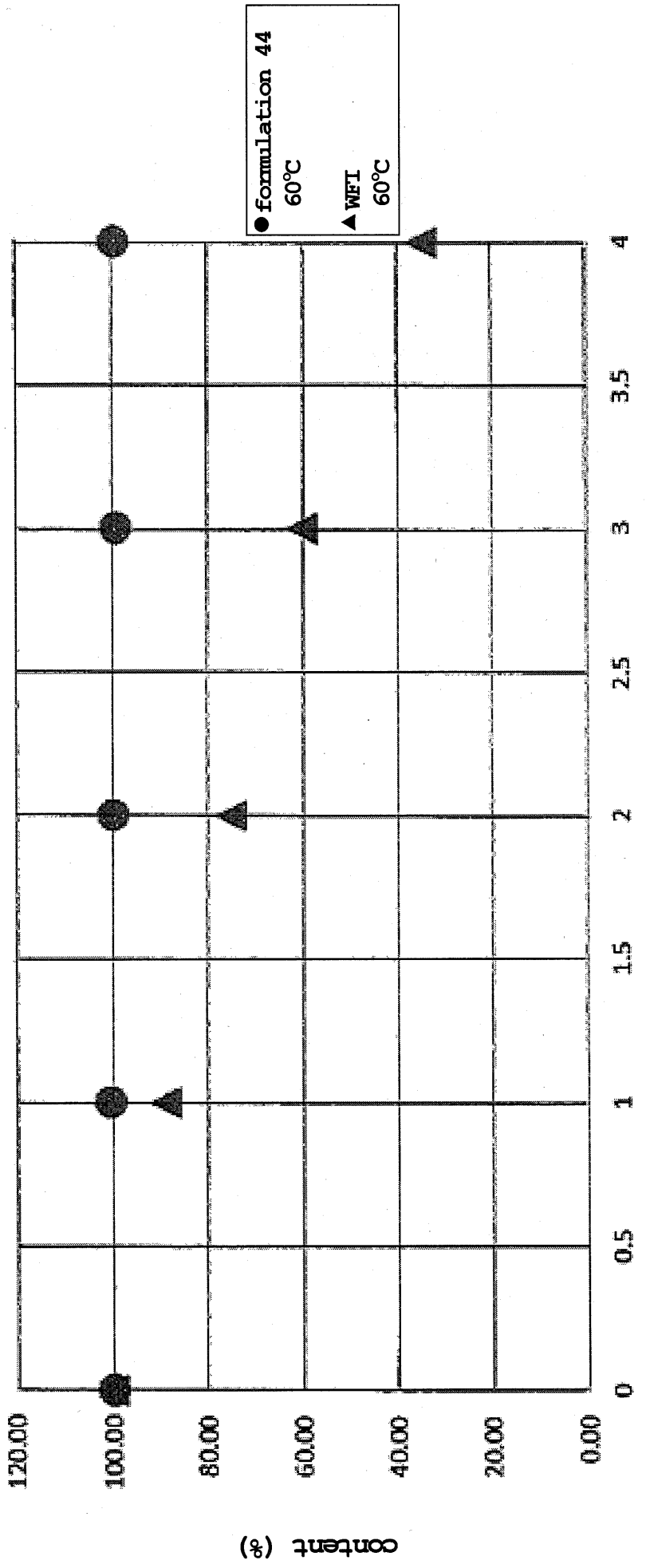
Psh: PH-7069 (mSmad3 sequence) 50 bases

FIG 12



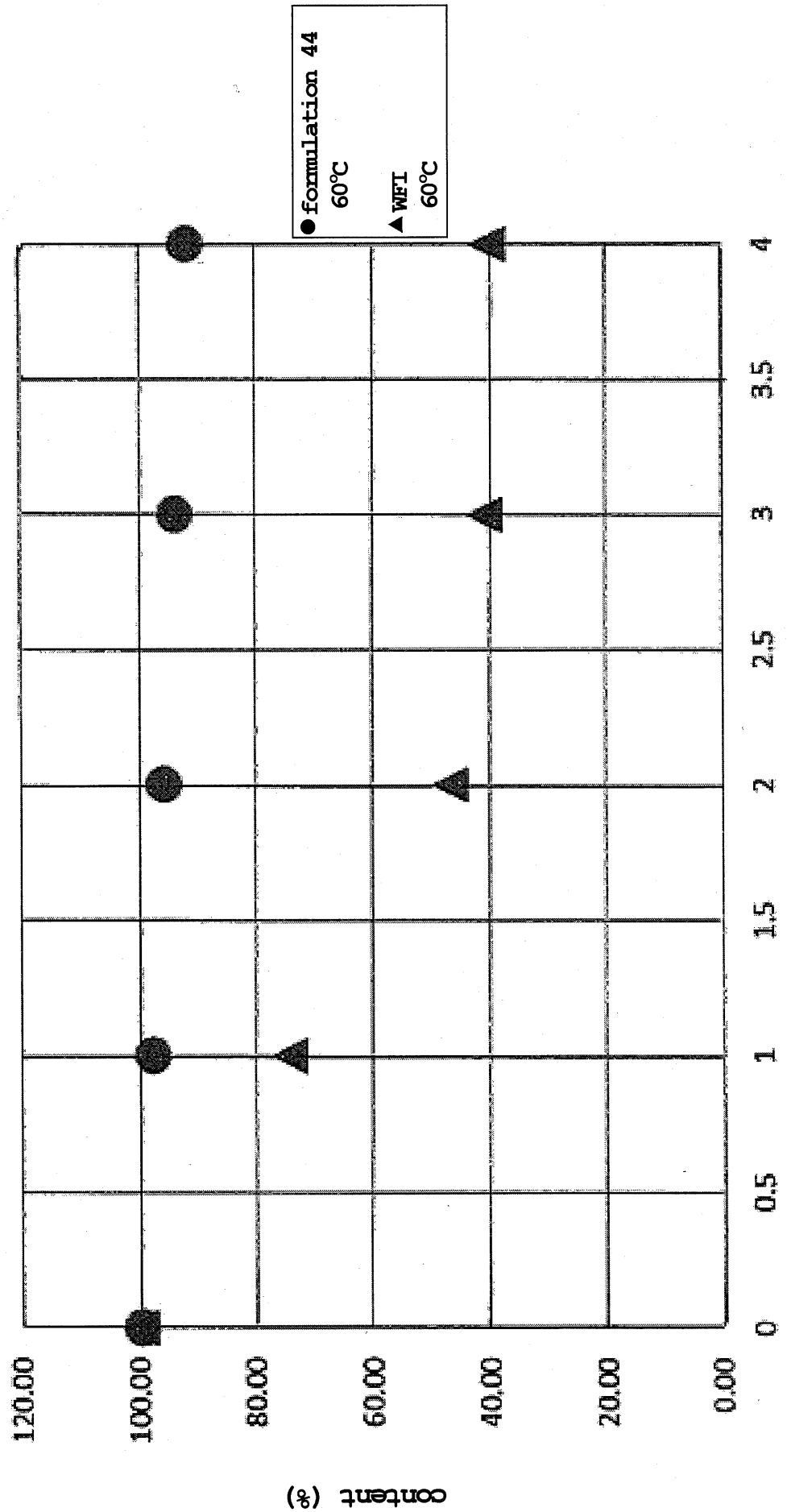
antisense: Kynamuro (mipomersen) unmodified sequence 20 bases

FIG 13



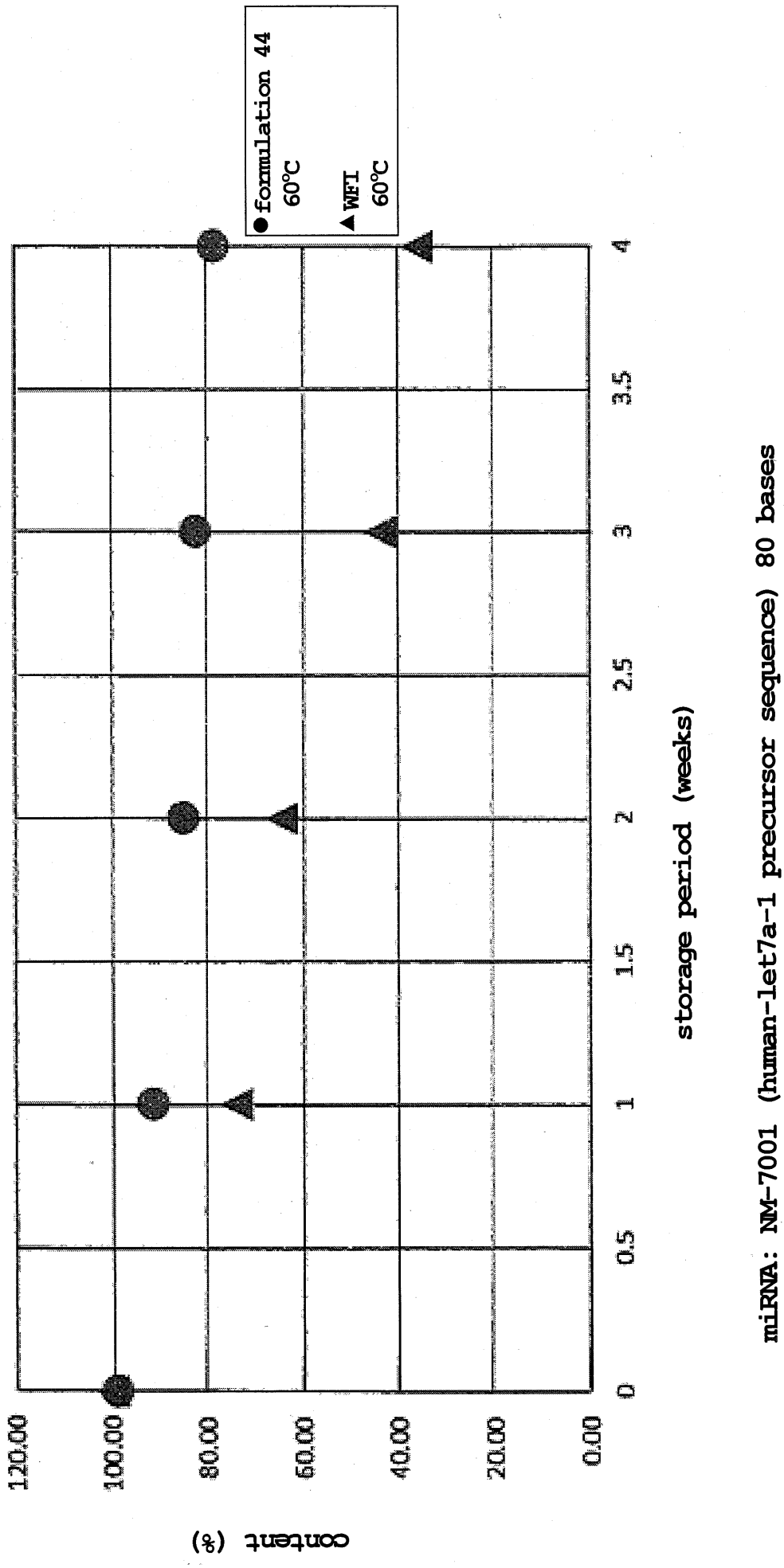
Psh: PH-7081 (firefly luciferase sequence) 49 bases

FIG 14



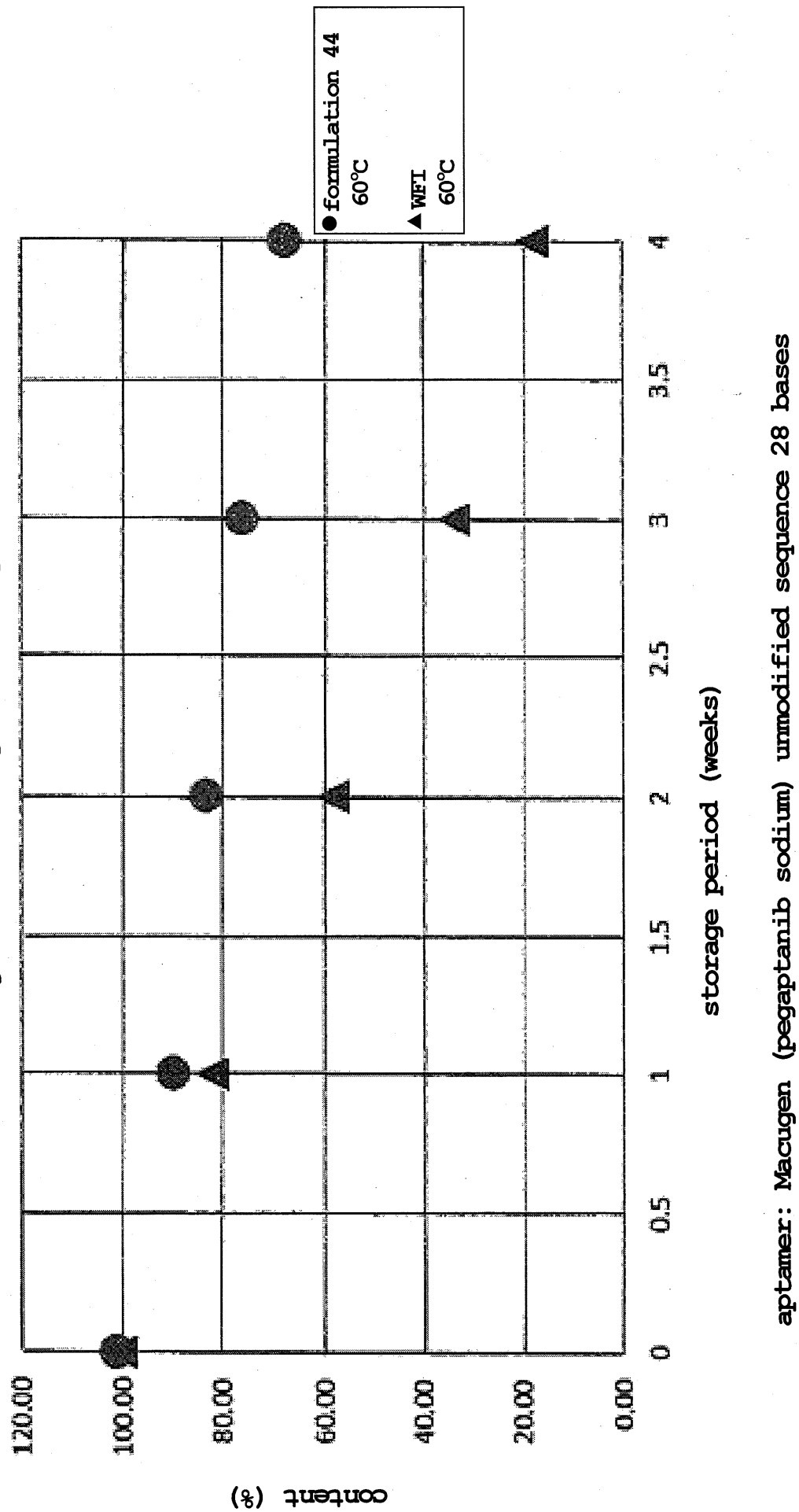
siRNA: NI-7001 (mCTGF sequence) 21 bases/21 bases

FIG 15



miRNA: NM-7001 (human-let7a-1 precursor sequence) 80 bases

FIG 16



aptamer: Macugen (pegaptanib sodium) unmodified sequence 28 bases

FIG 17

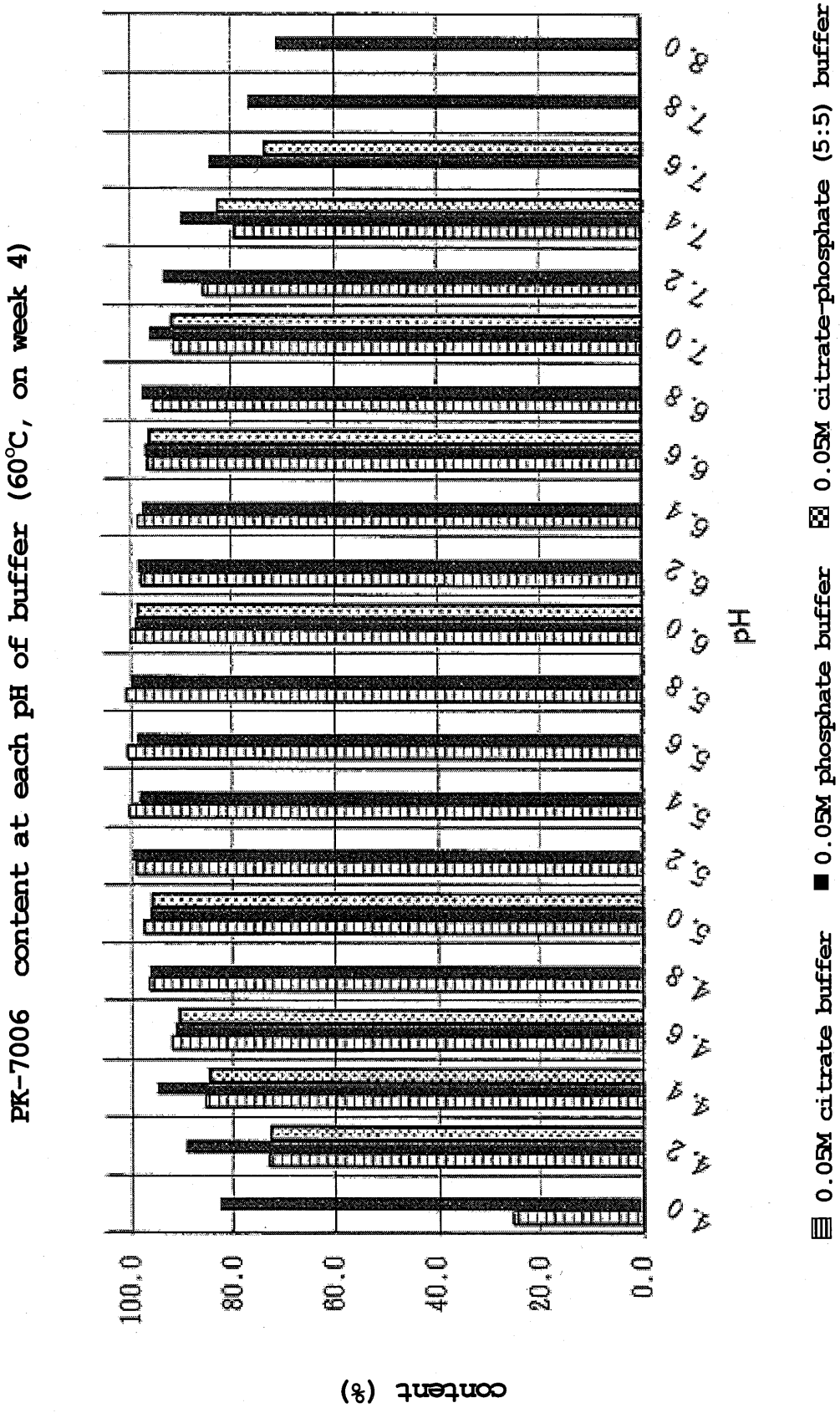

PK-7006 content at each pH of buffer (60°C, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 18

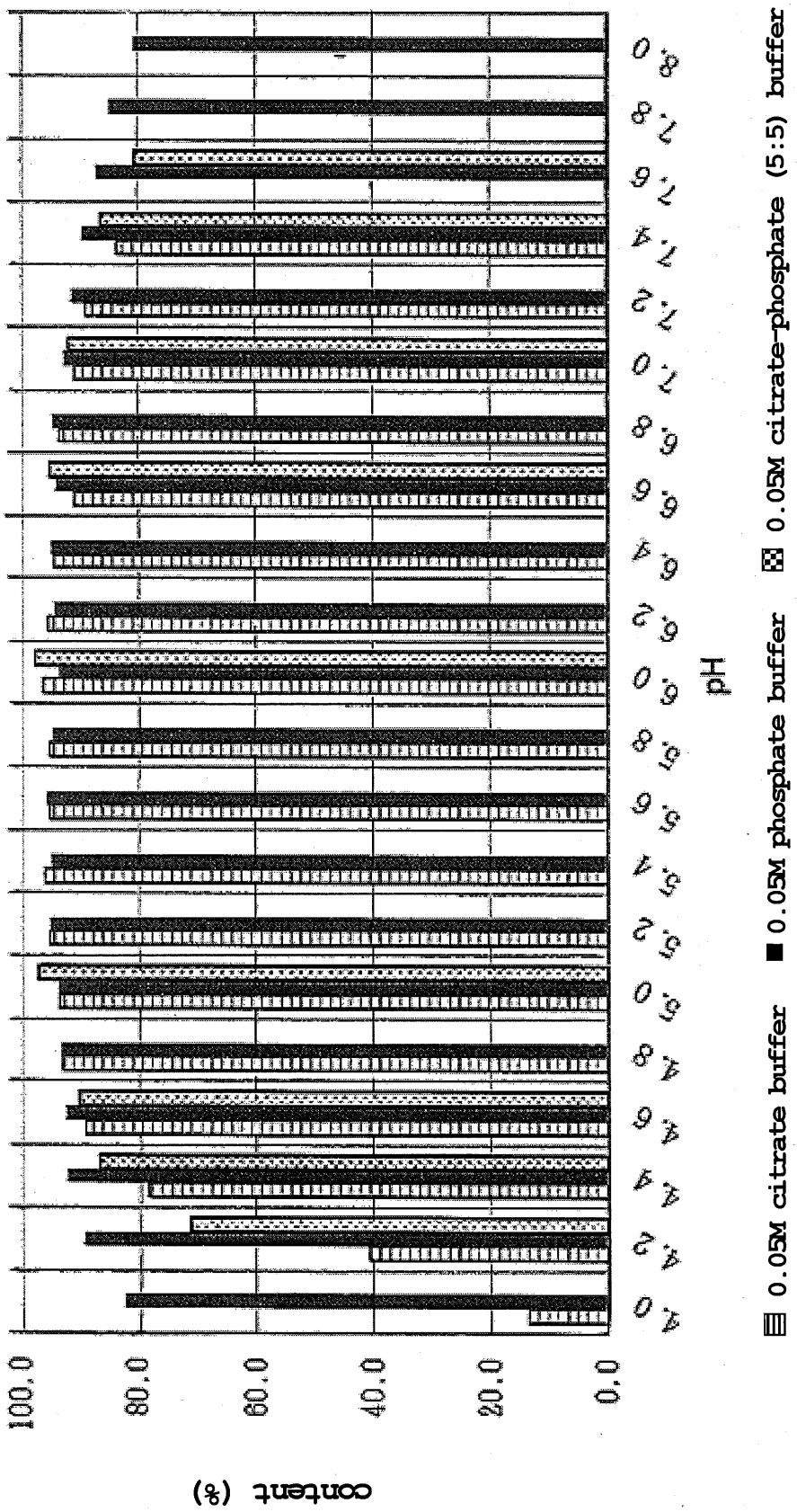

NK-7006 content at each pH of buffer (60°C, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 19

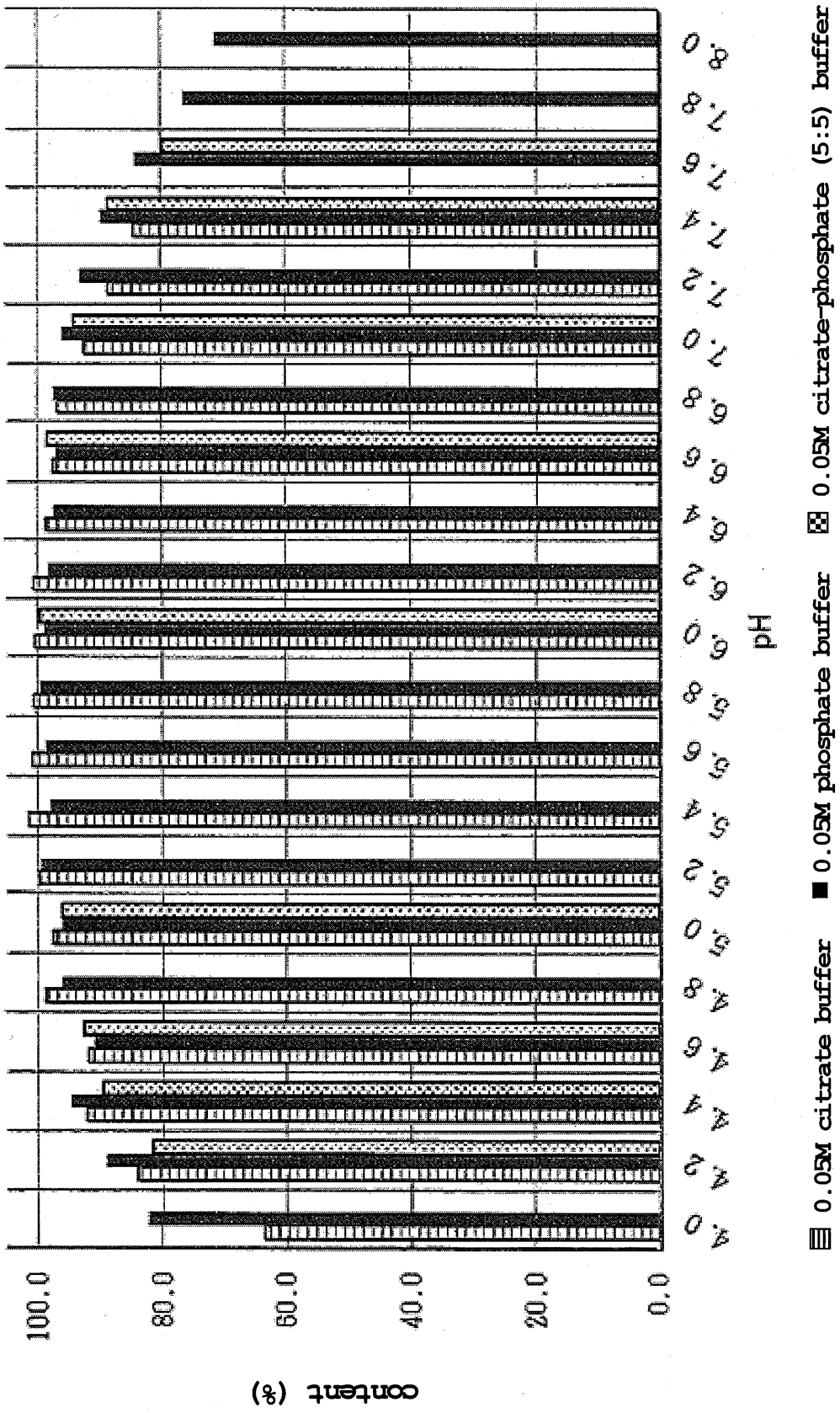

PH-7069 content at each pH of buffer (60°C, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 20

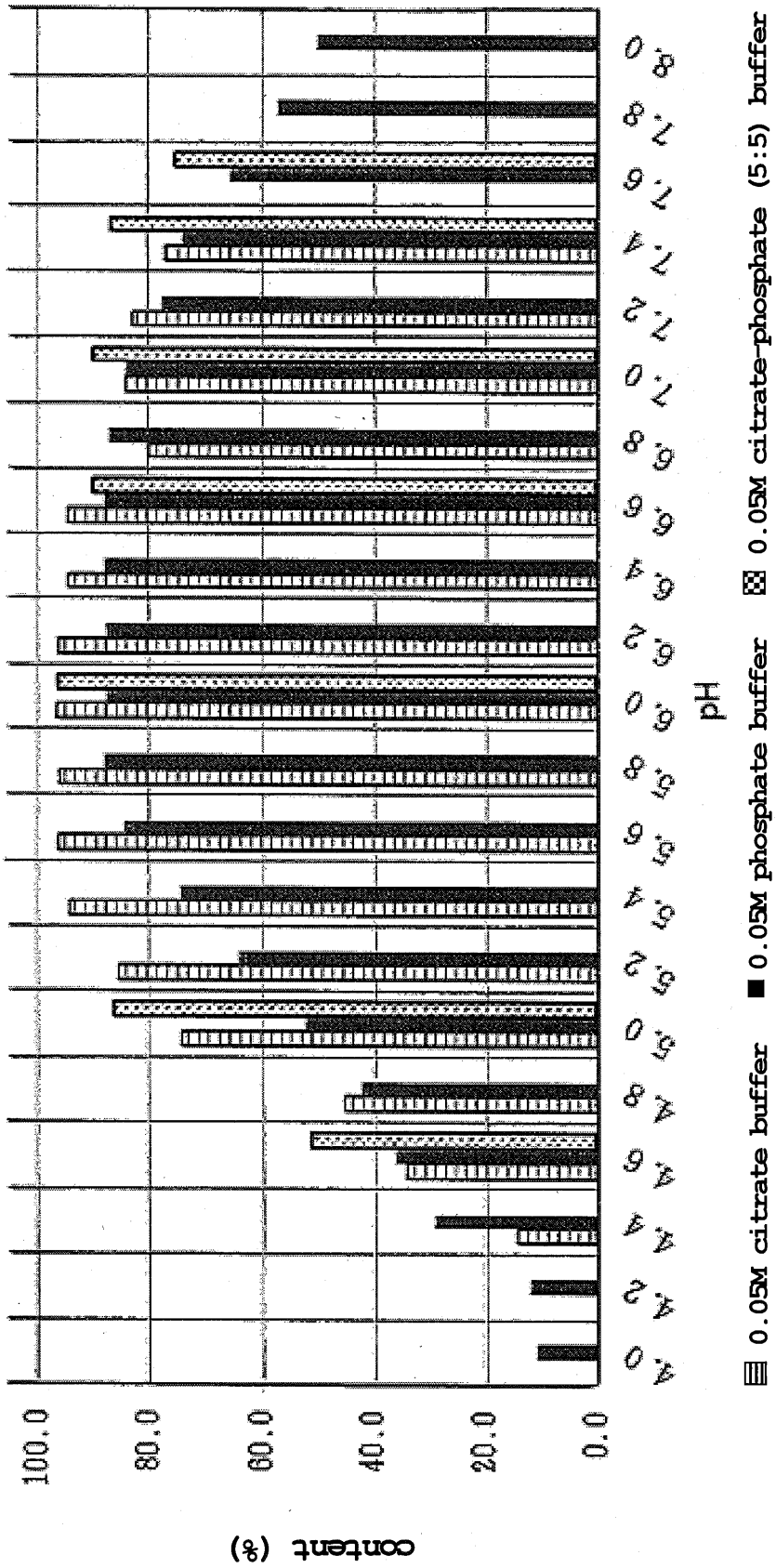

NI-7001 content at each pH of buffer (60°C, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 21

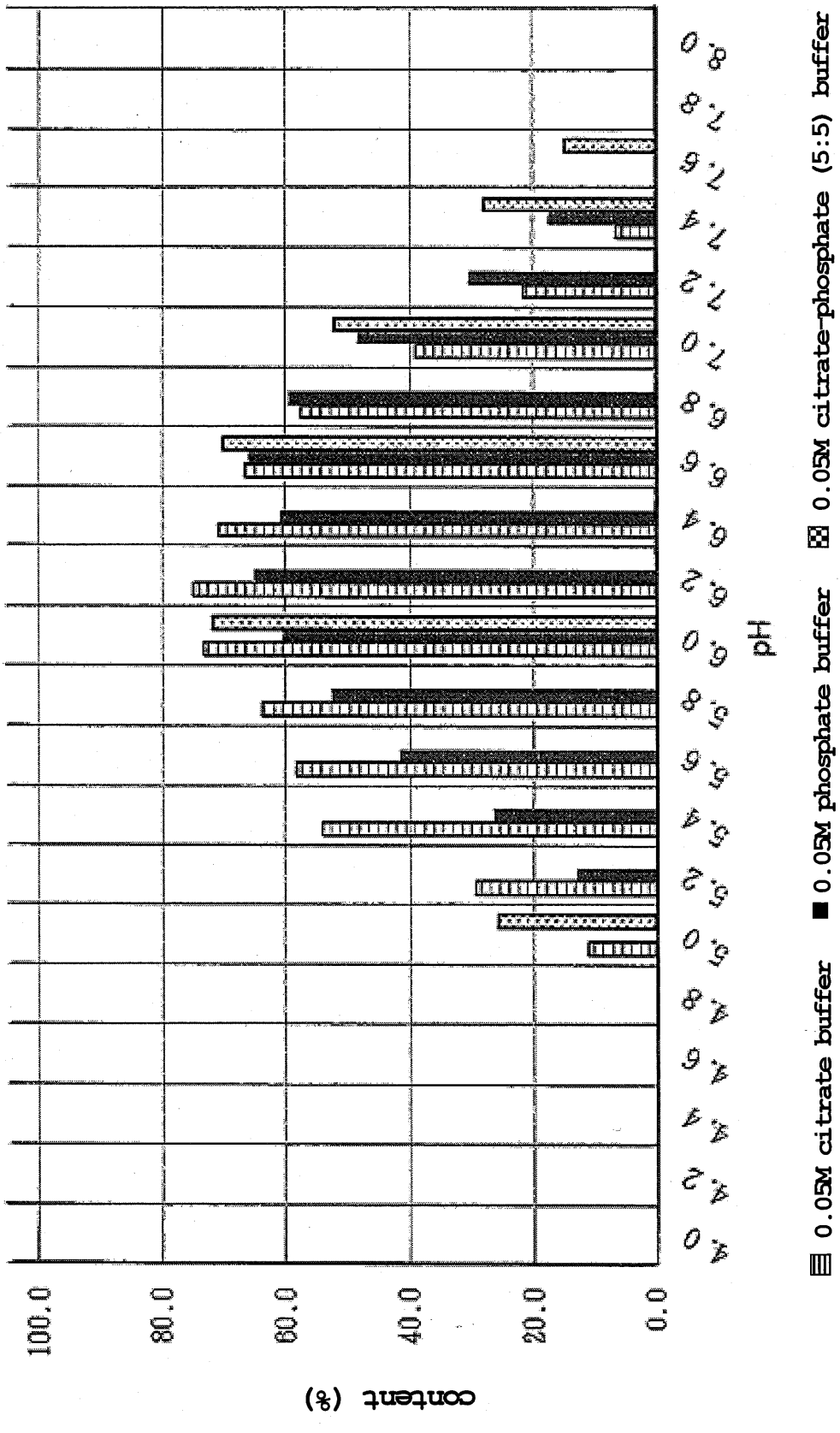

NM-7001 content at each pH of buffer (60℃, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 22

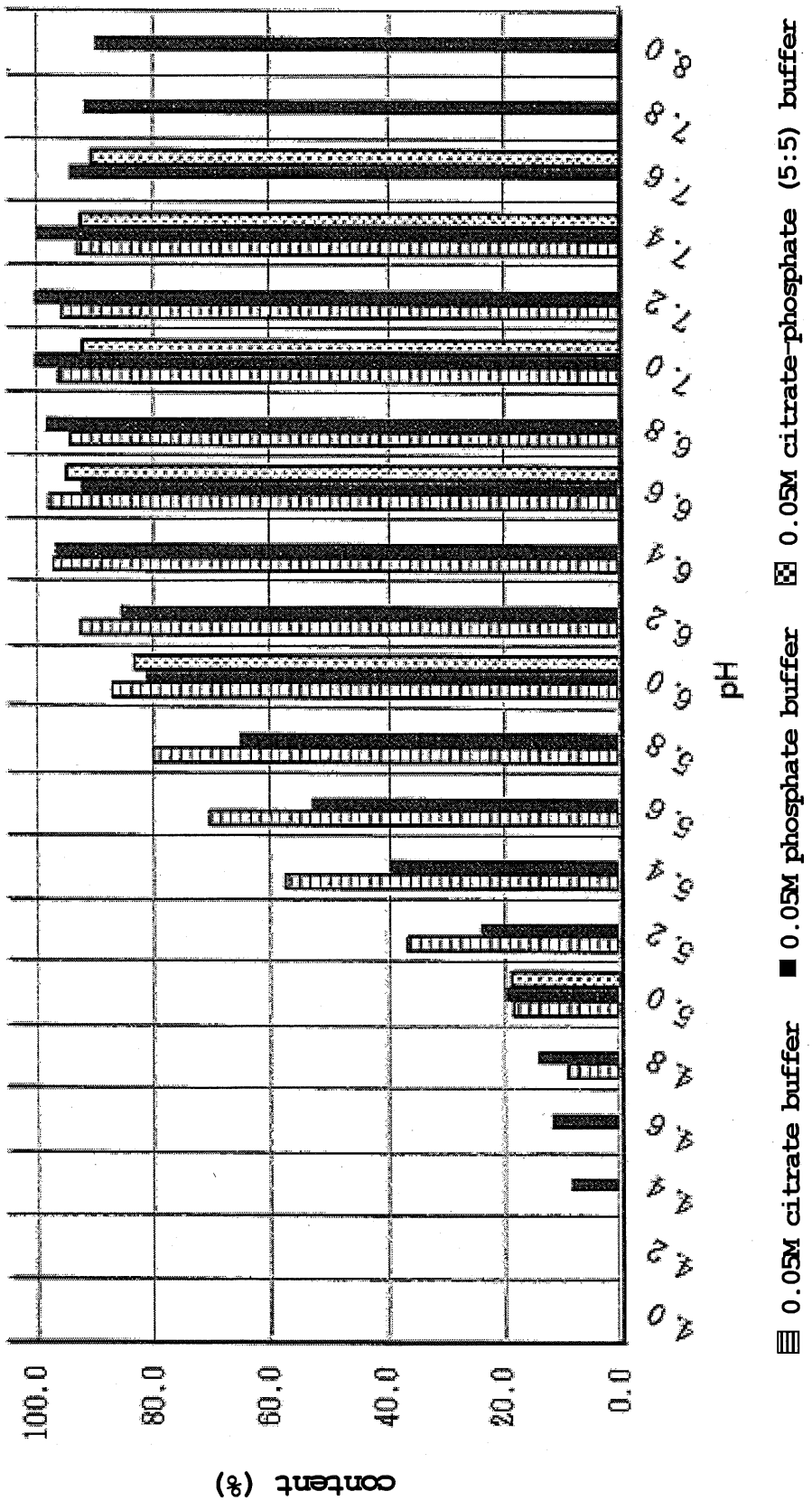
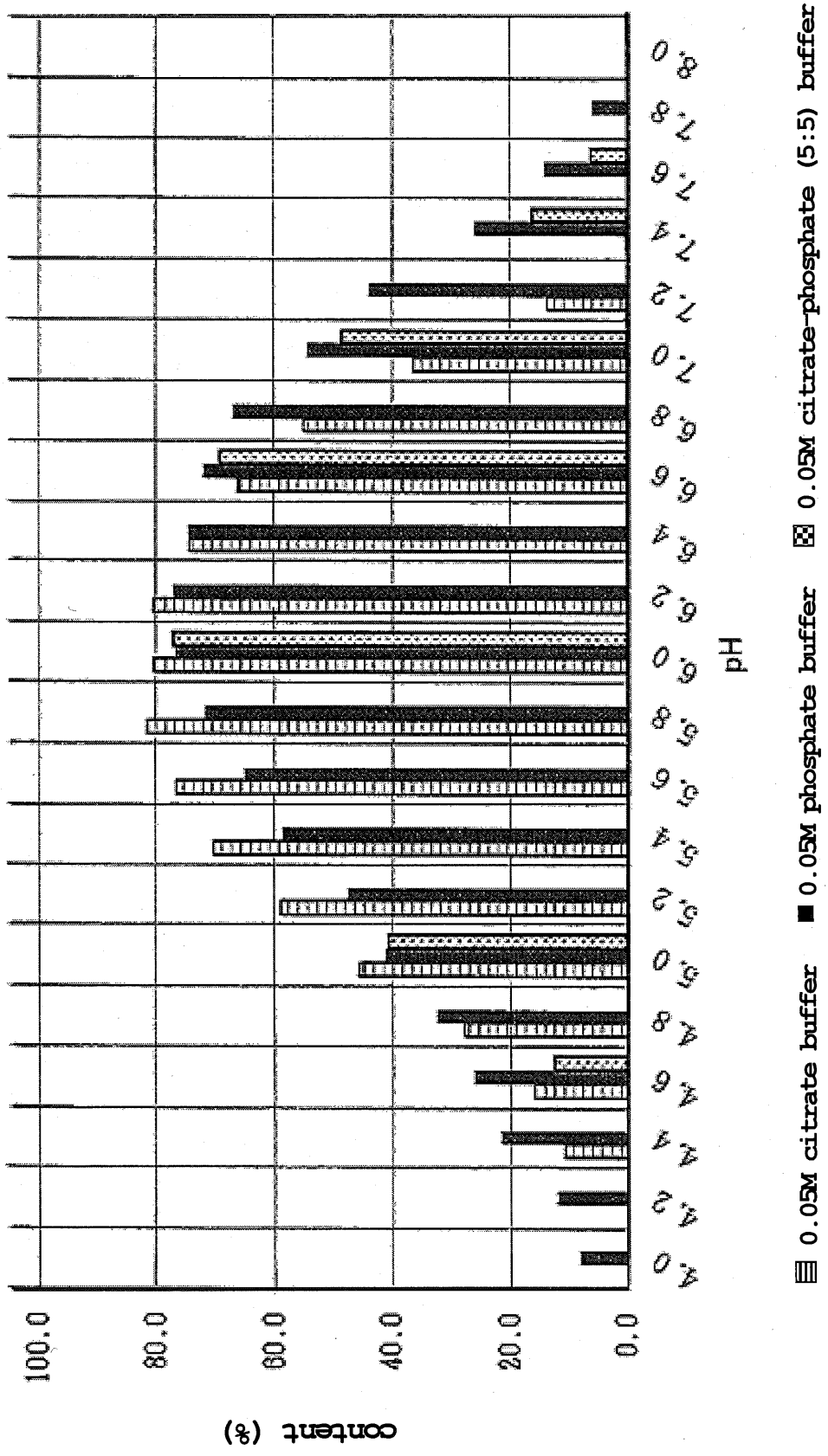

Kynamro-7001 content at each pH of buffer (60℃, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer

FIG 23


Macugen-7001 content at each pH of buffer (60°C, on week 4)
content (%)
100.0
80.0
60.0
40.0
20.0
0.0
pH
4.0
4.2
4.4
4.6
4.8
5.0
5.2
5.4
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
0.05M citrate buffer
0.05M phosphate buffer
0.05M citrate-phosphate (5:5) buffer