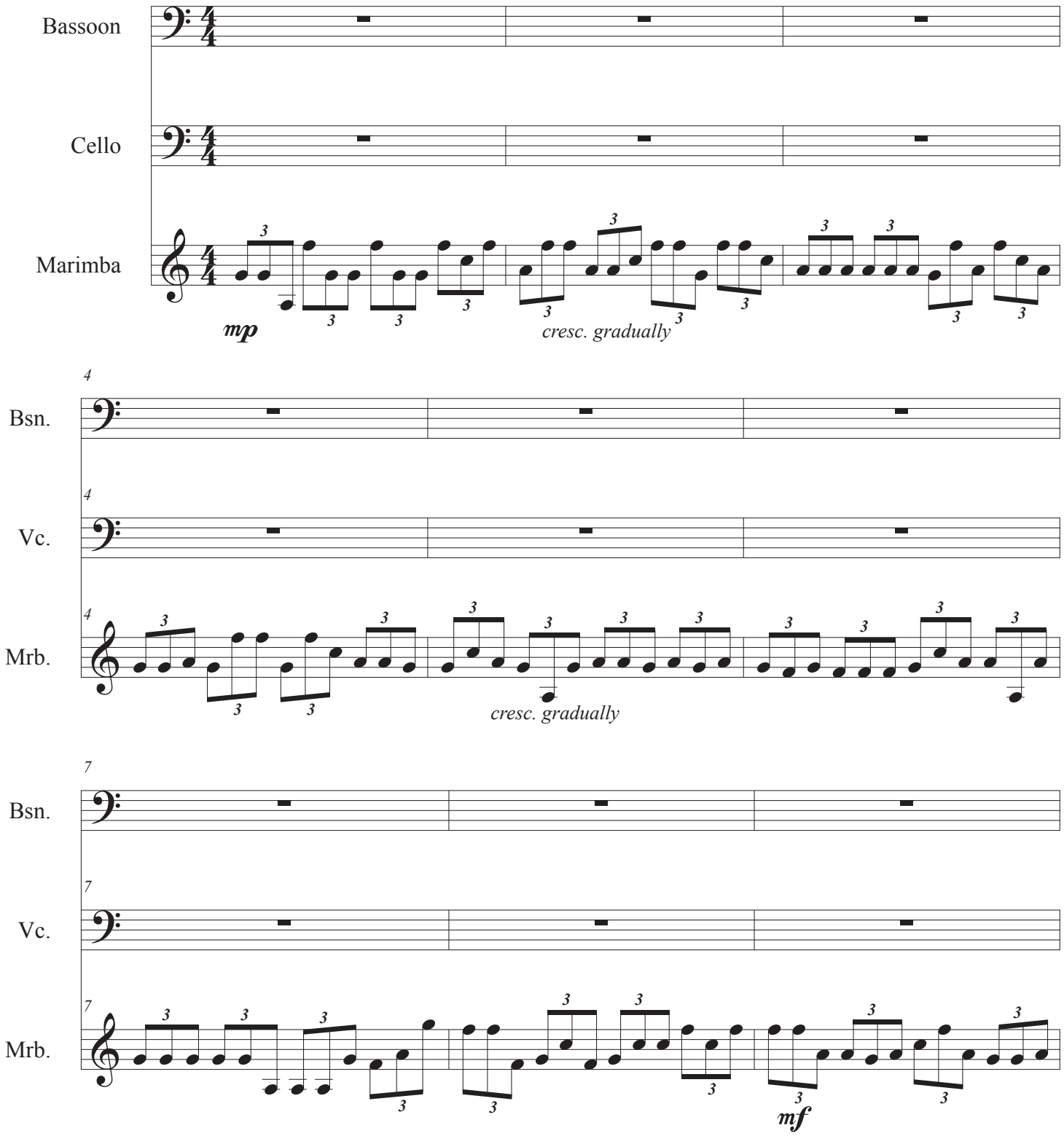
Score

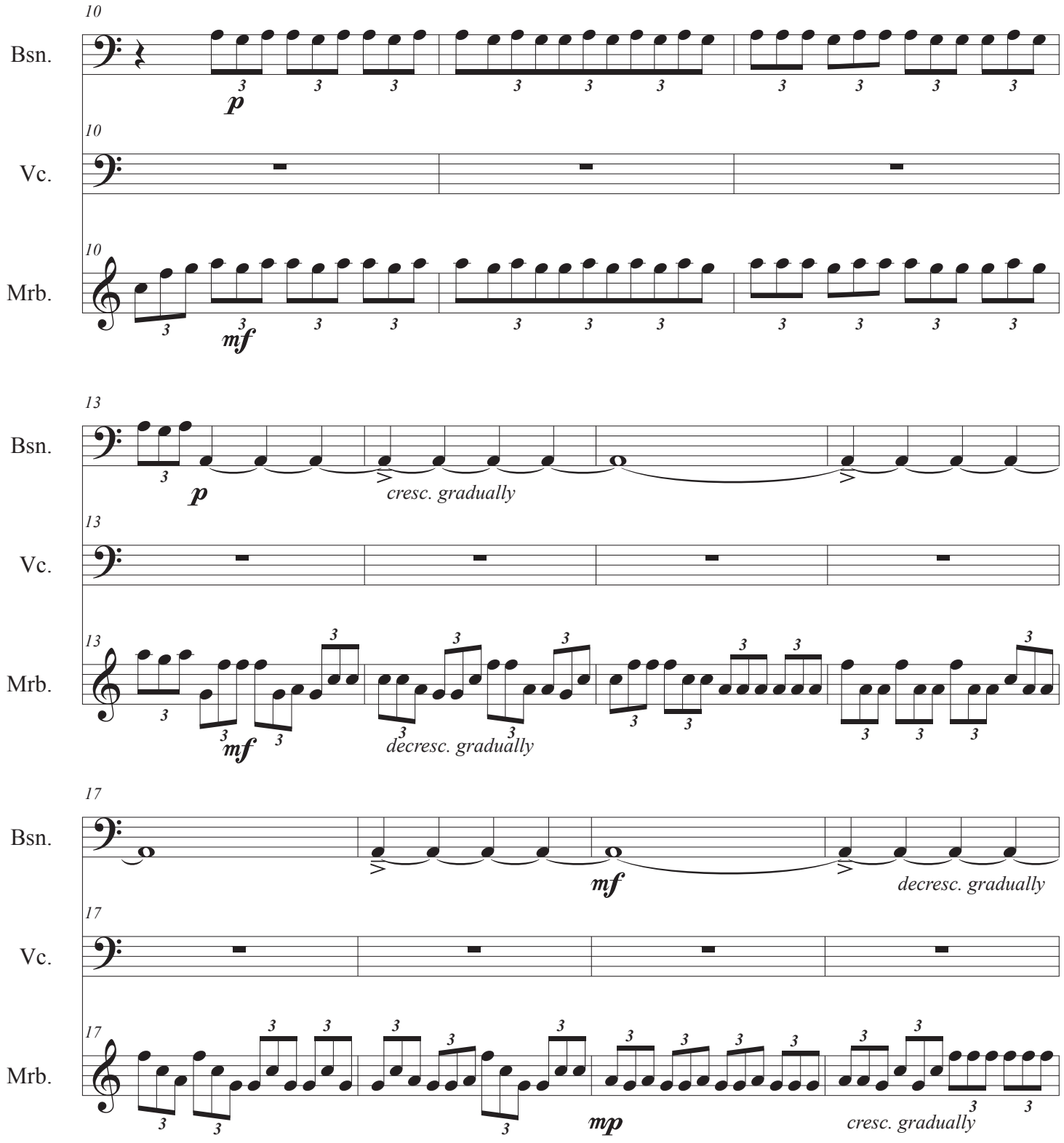
Epigenetic Switches

1. Histones

Paul Walde



©2011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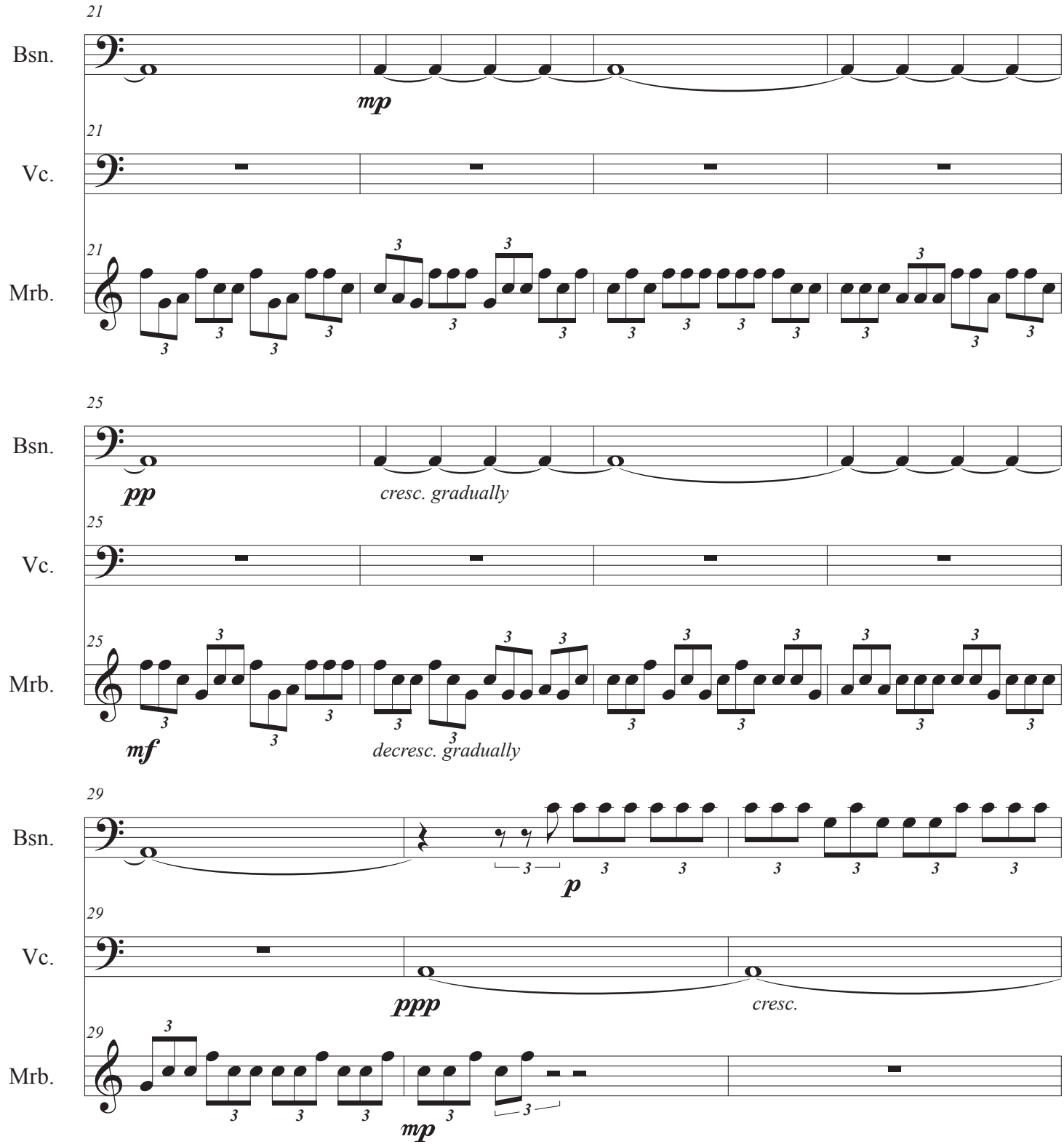
Bsn.
p
10
Vc.
10
Mrb.
mf
13
Bsn.
p
cresc. gradually
13
Vc.
13
Mrb.
mf
decresc. gradually
17
Bsn.
mf
decresc. gradually
17
Vc.
17
Mrb.
mp
cresc. gradually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Bsn.
mp
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Vc.
21
Mrb.
25
Bsn.
pp
cresc. gradually
25
Vc.
25
Mrb.
mf
decresc. gradually
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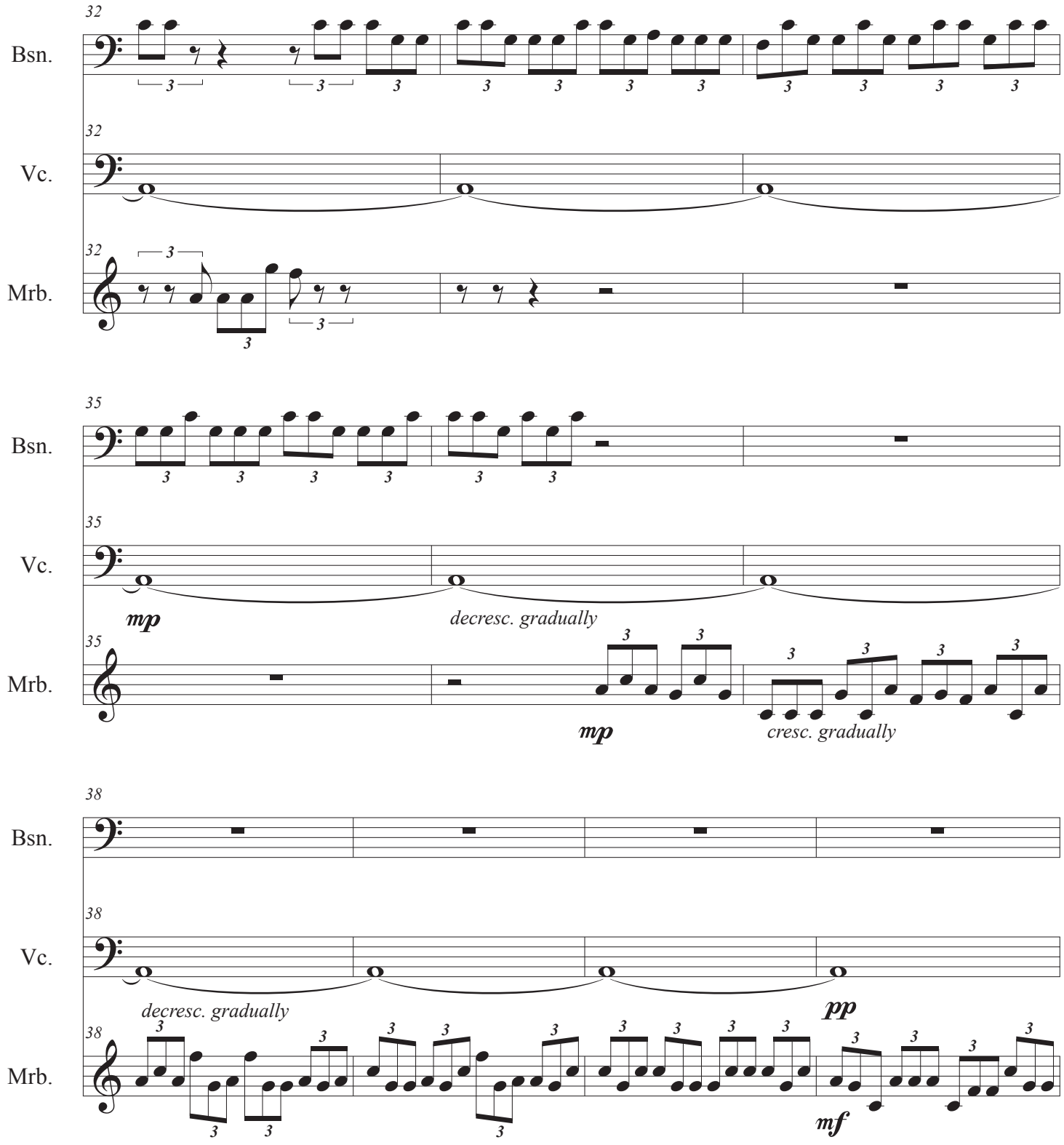
Bsn.
p
29
Vc.
ppp
cresc.
29
Mrb.
mp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Bsn.
32
Vc.
32
Mrb.
35
Bsn.
35
Vc.
mp
decresc. gradually
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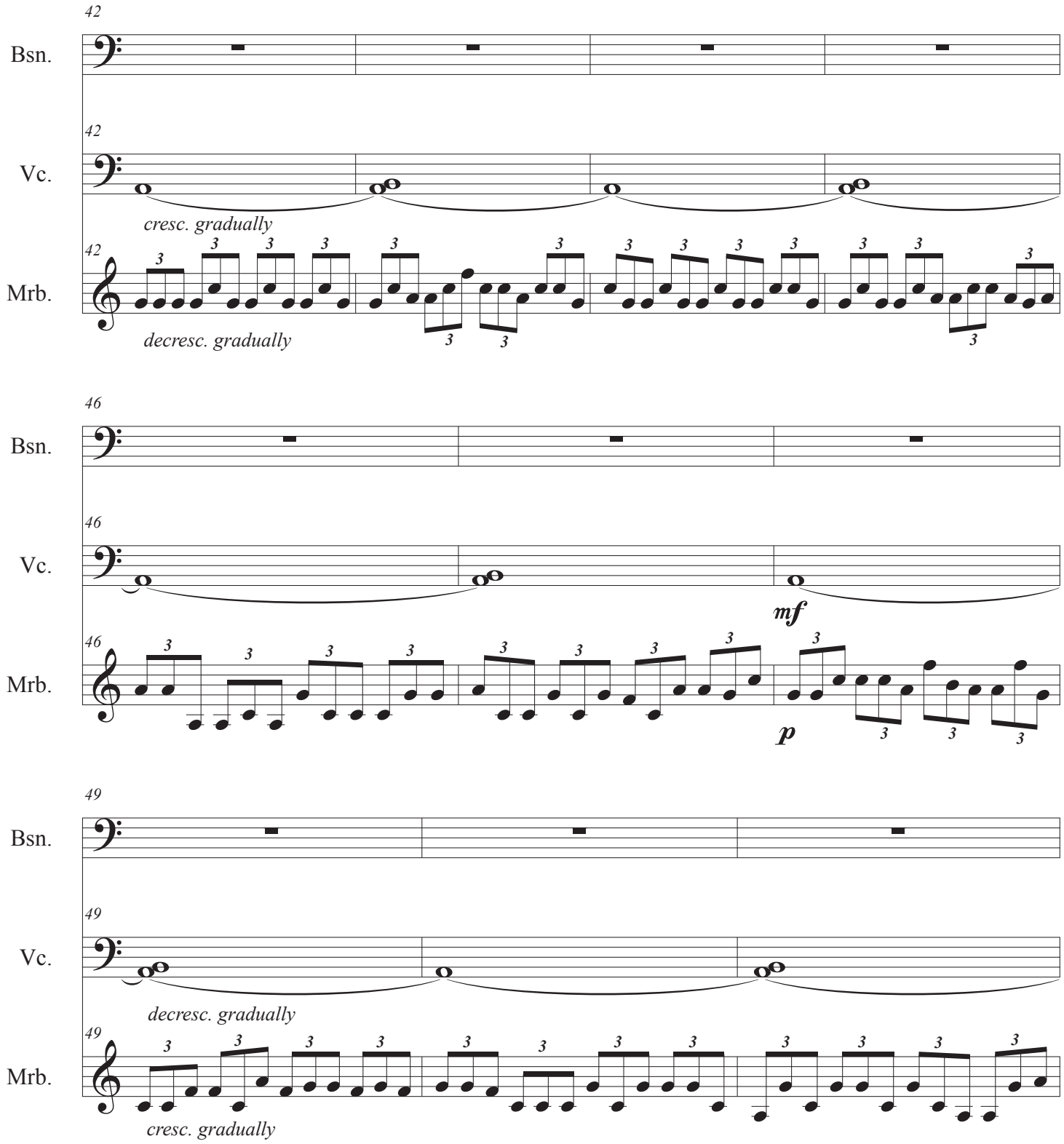
Mrb.
mp
cresc. gradually
38
Bsn.
38
Vc.
decresc. gradually
pp
38
Mrb.
mf


42
Bsn.
42
Vc.
cresc. gradually
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Mrb.
decresc. gradually
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Bsn.
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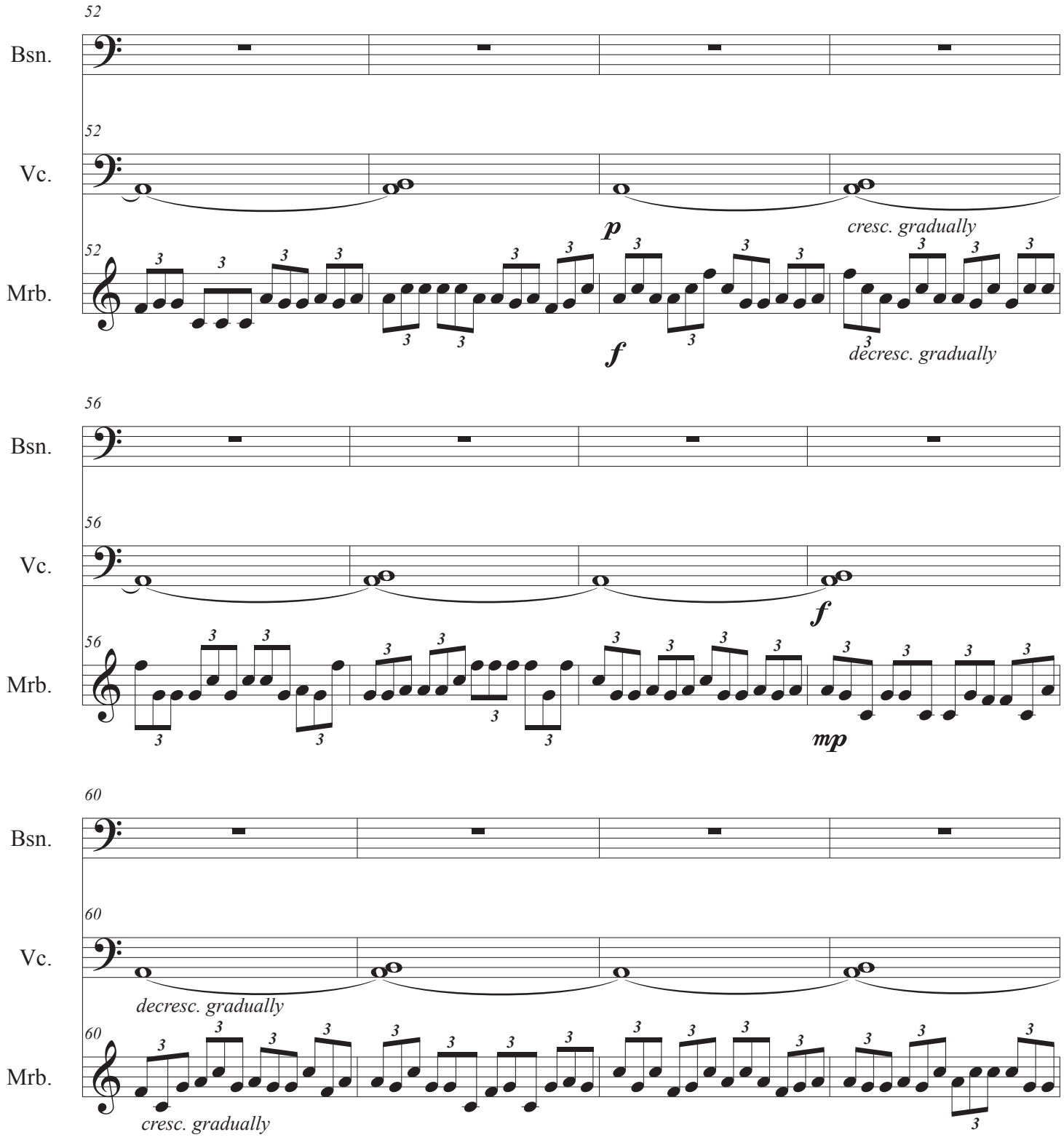
Vc.
mf
46
Mrb.
p
49
Bsn.
49
Vc.
decresc. gradually
49
Mrb.
cresc. gradually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Bsn.
52
Vc.
p
cresc. gradually
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Mrb.
f
decresc. gradually
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Bsn.
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Vc.
f
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Mrb.
mp
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Bsn.
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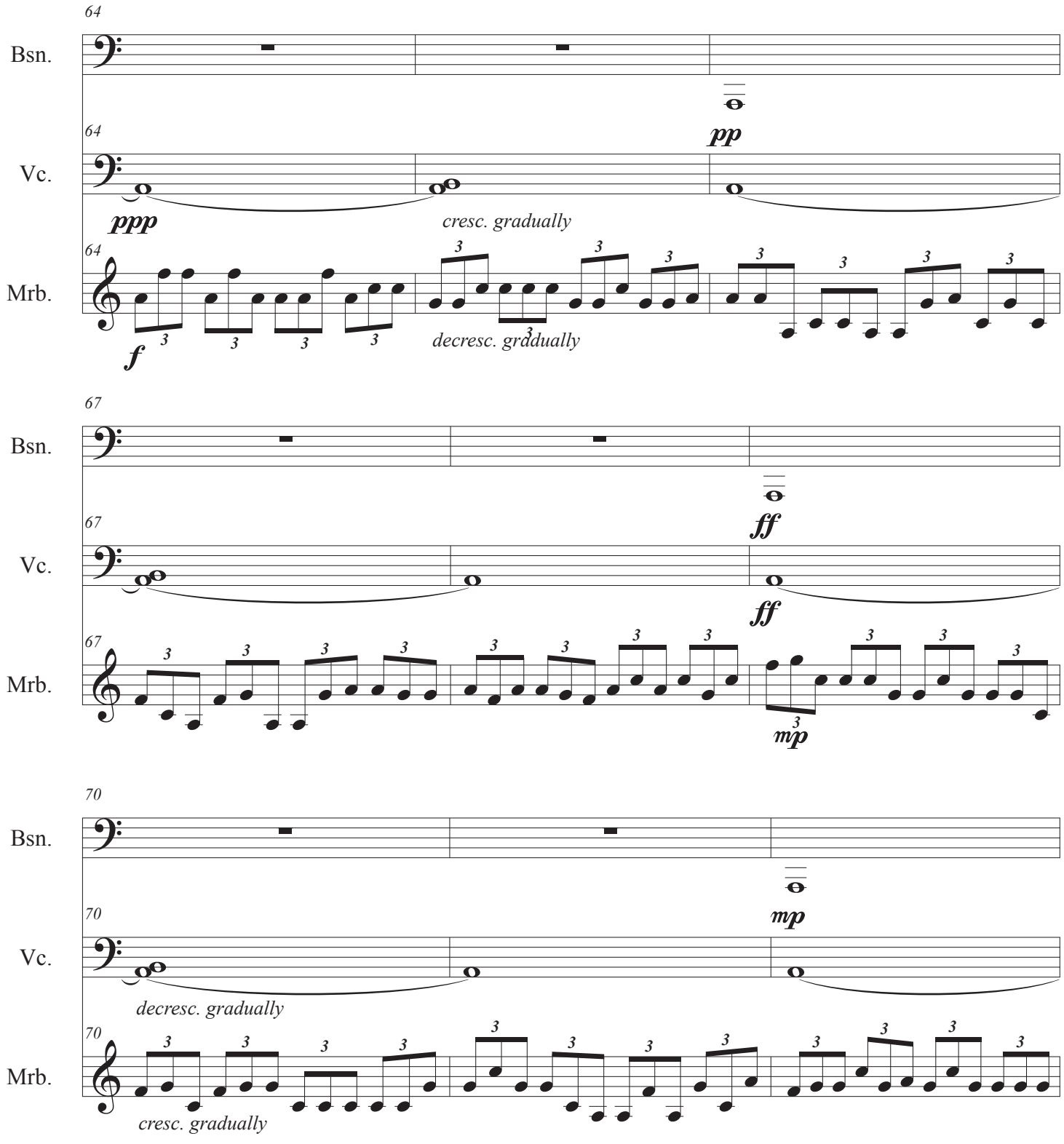
Vc.
decresc. gradually
60
Mrb.
cresc. gradually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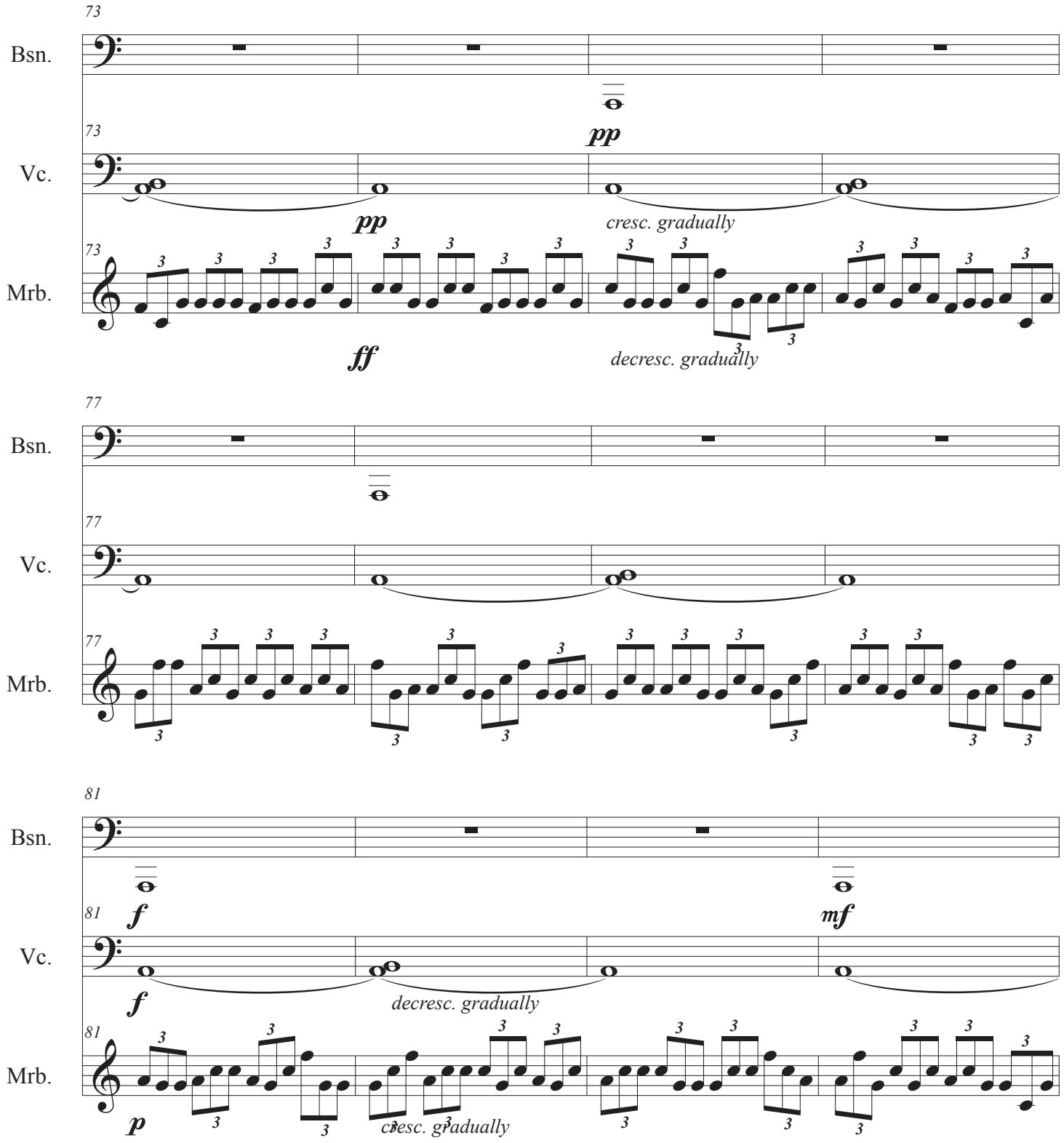
Bsn.
64
Vc.
pp
ppp
cresc. gradually
64
Mrb.
f
decresc. gradually
67
Bsn.
67
Vc.
ff
ff
67
Mrb.
mp
70
Bsn.
70
Vc.
mp
decresc. gradually
70
Mrb.
cresc. gradually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Bsn.
73
pp
Vc.
pp
cresc. gradually
73
Mrb.
ff
decresc. gradually
77
Bsn.
77
Vc.
77
Mrb.
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Bsn.
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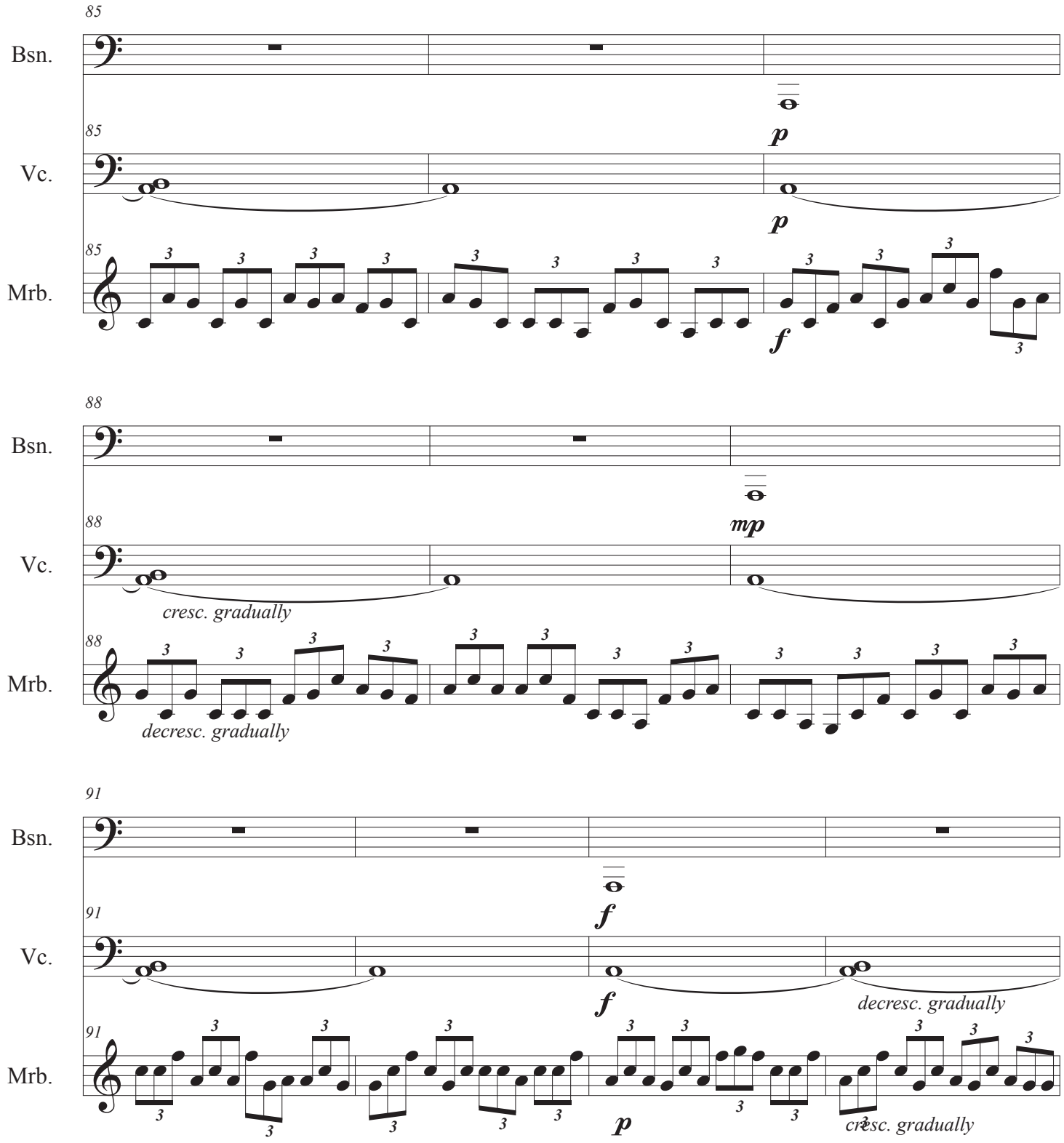
f
mf
Vc.
f
decresc. gradually
81
Mrb.
p
cresc. gradually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Bsn.
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Vc.
p
p
85
Mrb.
f
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Bsn.
88
Vc.
mp
cresc. gradually
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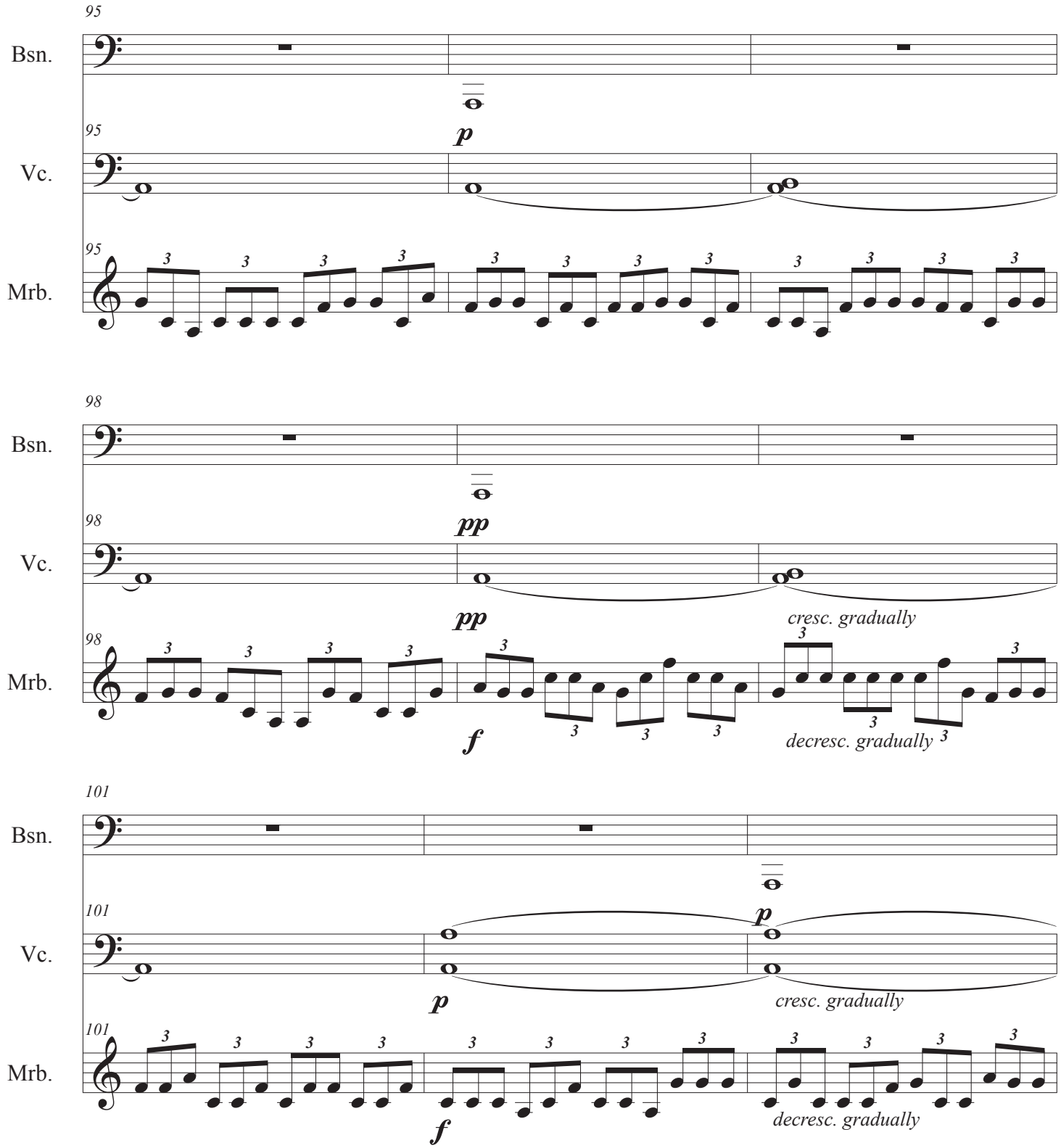
Mrb.
decresc. gradually
91
Bsn.
f
91
Vc.
f
decresc. gradually
91
Mrb.
p
cresc. gradually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Bsn.
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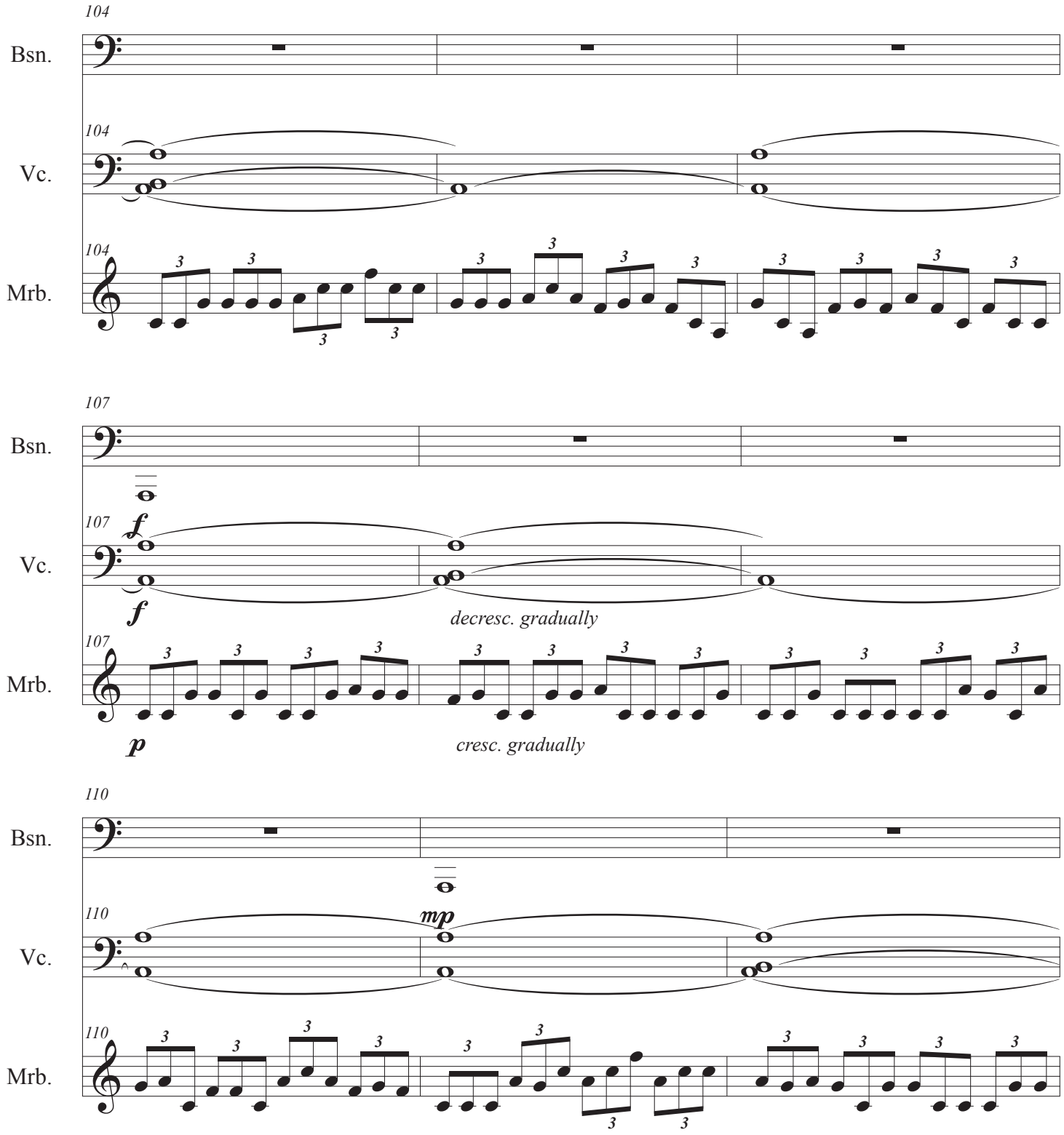
p
Vc.
95
Mrb.
98
Bsn.
98
pp
Vc.
pp
cresc. gradually
98
Mrb.
f
decresc. gradually
101
Bsn.
101
p
Vc.
p
cresc. gradually
101
Mrb.
f
decresc. gradually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Bsn.
104
Vc.
104
Mrb.
107
Bsn.
f
107
Vc.
f
decresc. gradually
107
Mrb.
p
cresc. gradually
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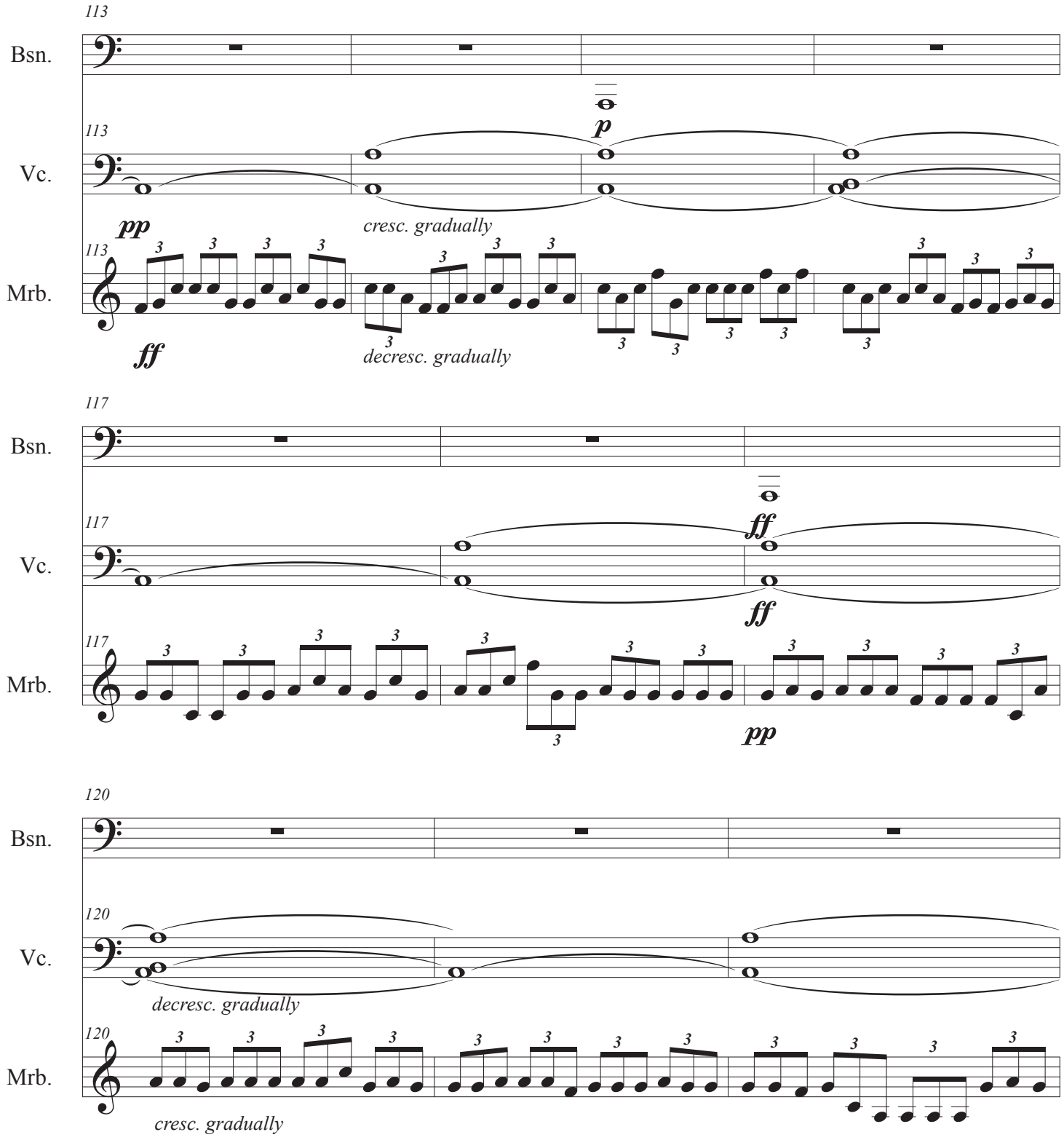
Bsn.
mp
110
Vc.
110
Mrb.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Bsn.
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Vc.
p
cresc. gradually
pp
113
Mrb.
ff
decresc. gradually
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Bsn.
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Vc.
ff
ff
117
Mrb.
pp
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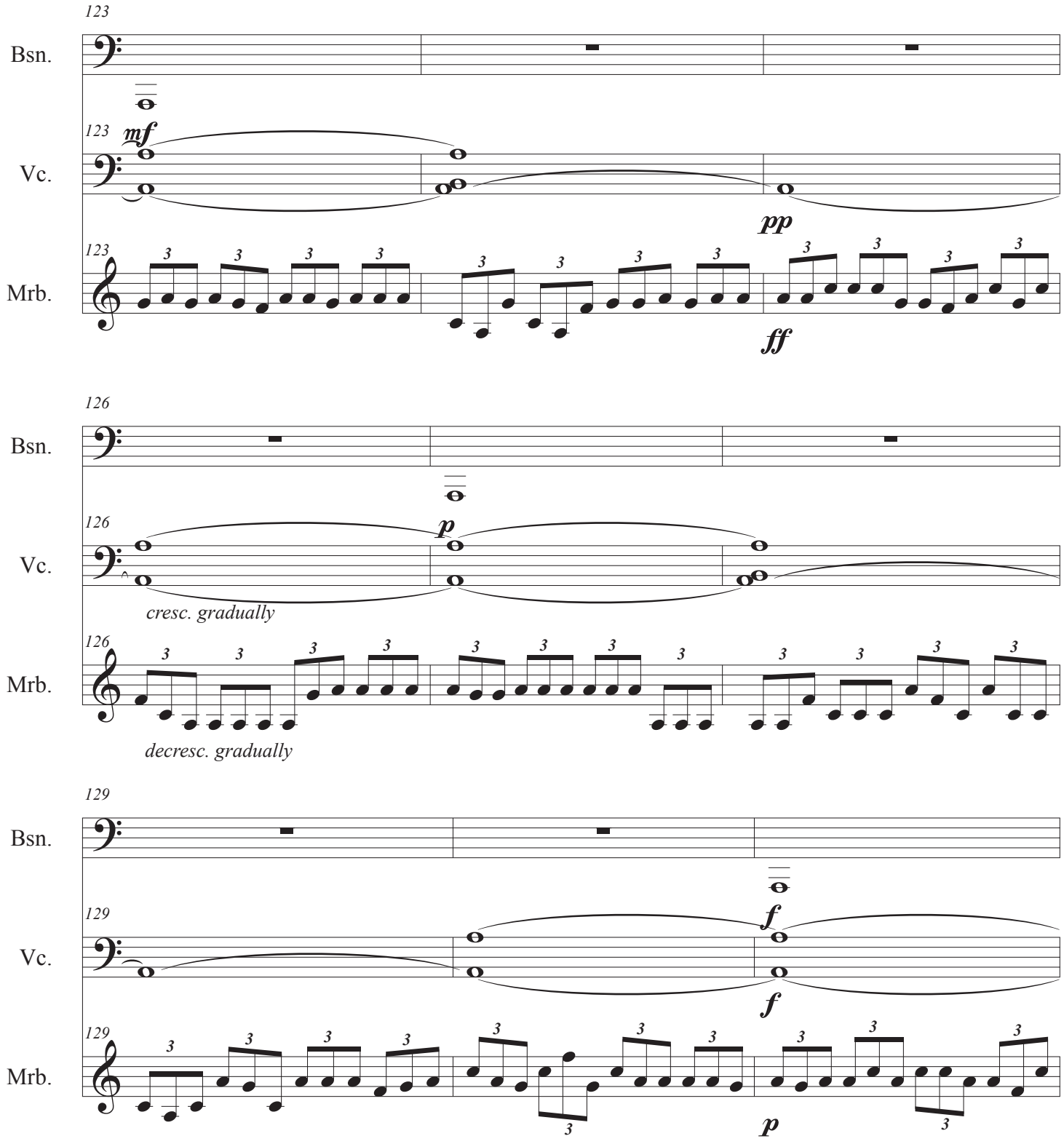
Bsn.
120
Vc.
decresc. gradually
120
Mrb.
cresc. gradually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Bsn.
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mf
Vc.
pp
123
Mrb.
ff
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Bsn.
126
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Vc.
cresc. gradually
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Mrb.
decresc. gradually
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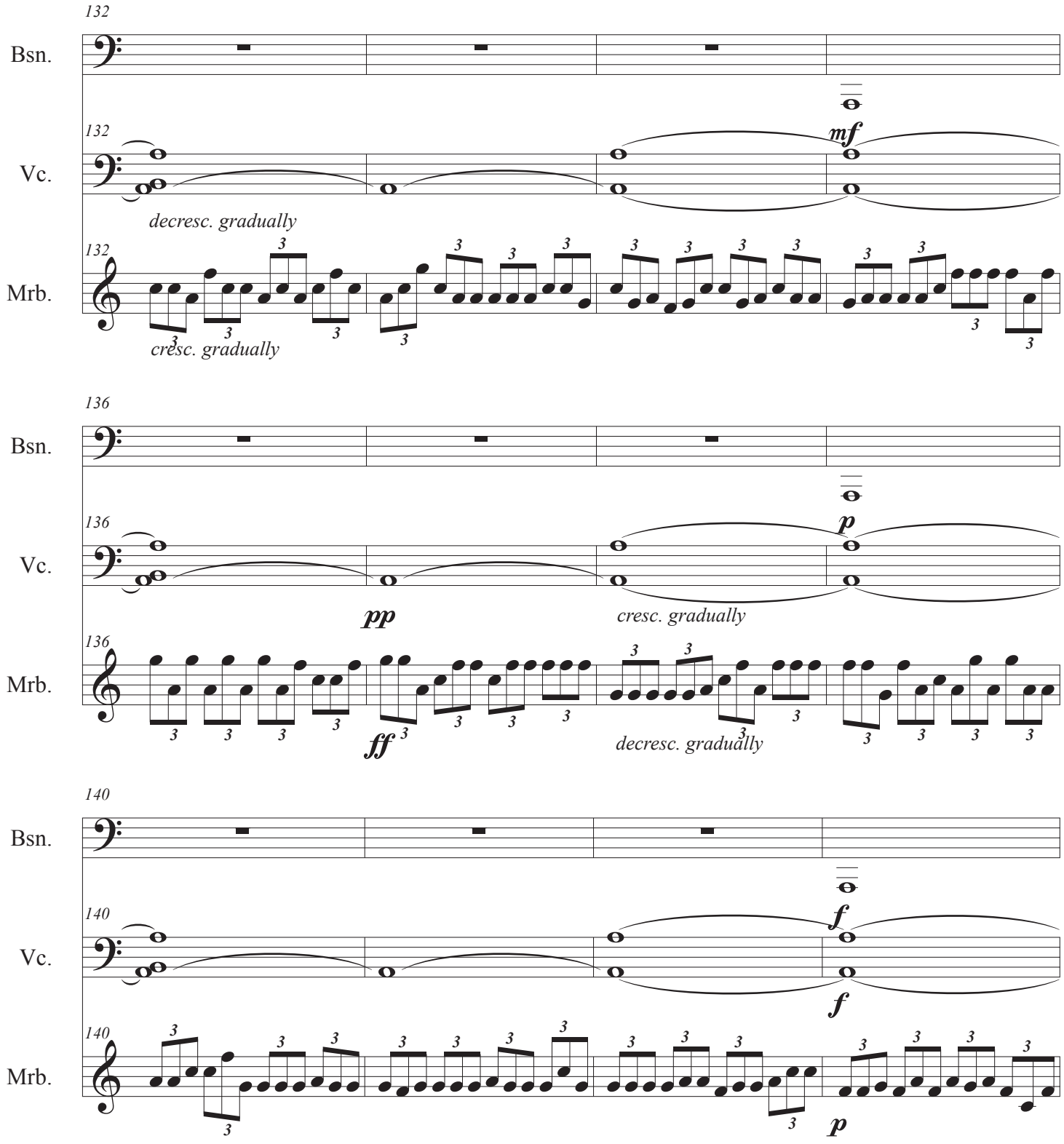
Bsn.
129
f
Vc.
f
129
Mrb.
p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Bsn.
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Vc.
mf
decresc. gradually
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Mrb.
cresc. gradually
136
Bsn.
136
Vc.
p
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cresc. gradually
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Mrb.
ff
decresc. gradually
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Bsn.
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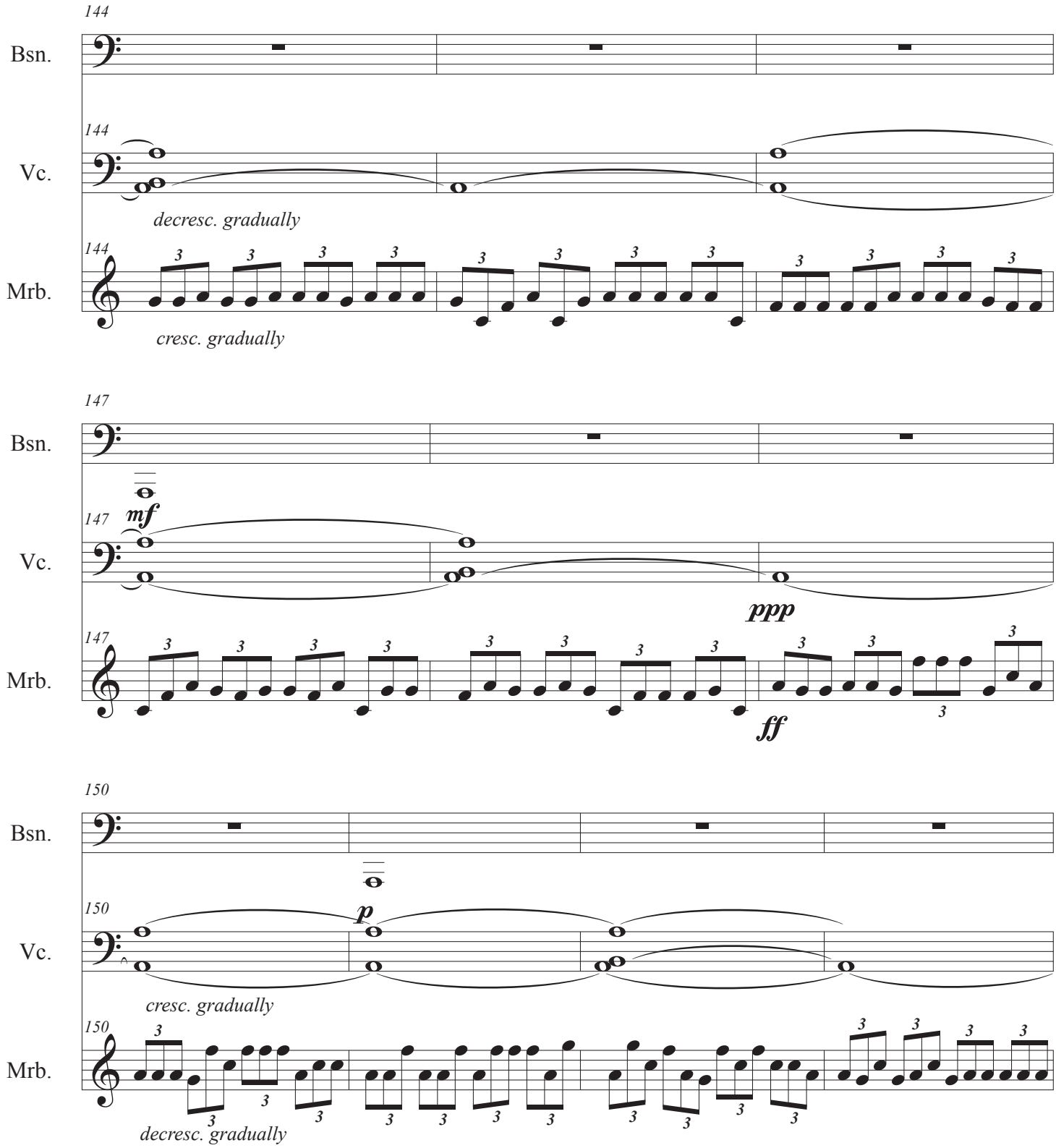
Vc.
f
f
140
Mrb.
p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Bsn.
144
Vc.
decresc. gradually
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Mrb.
cresc. gradually
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Bsn.
147
mf
Vc.
ppp
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Mrb.
ff
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Bsn.
150
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Vc.
cresc. gradually
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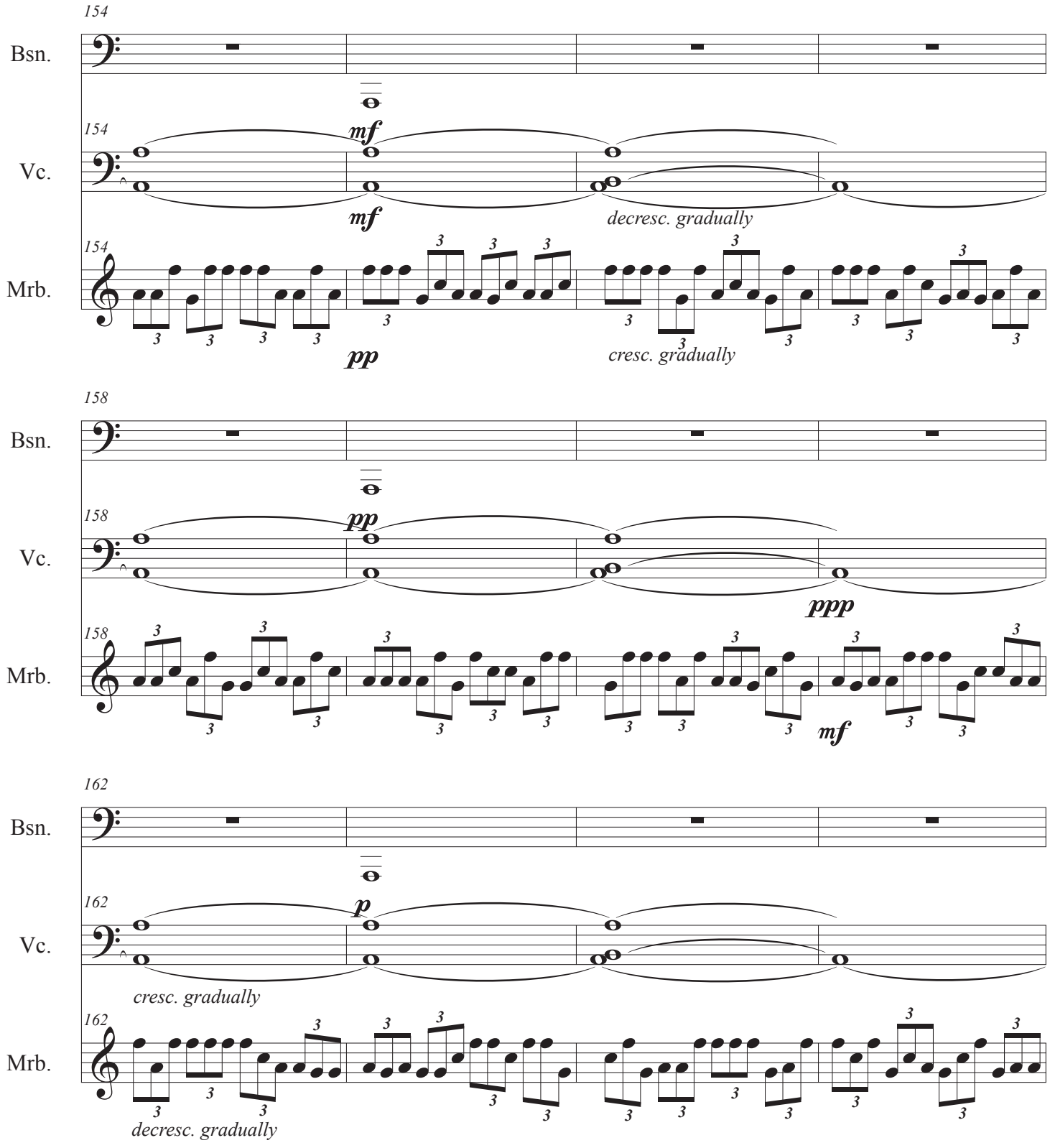
Mrb.
decresc. gradually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Bsn.
154
Vc.
mf
mf
decresc. gradually
154
Mrb.
pp
cresc. gradually
158
Bsn.
158
Vc.
pp
ppp
158
Mrb.
mf
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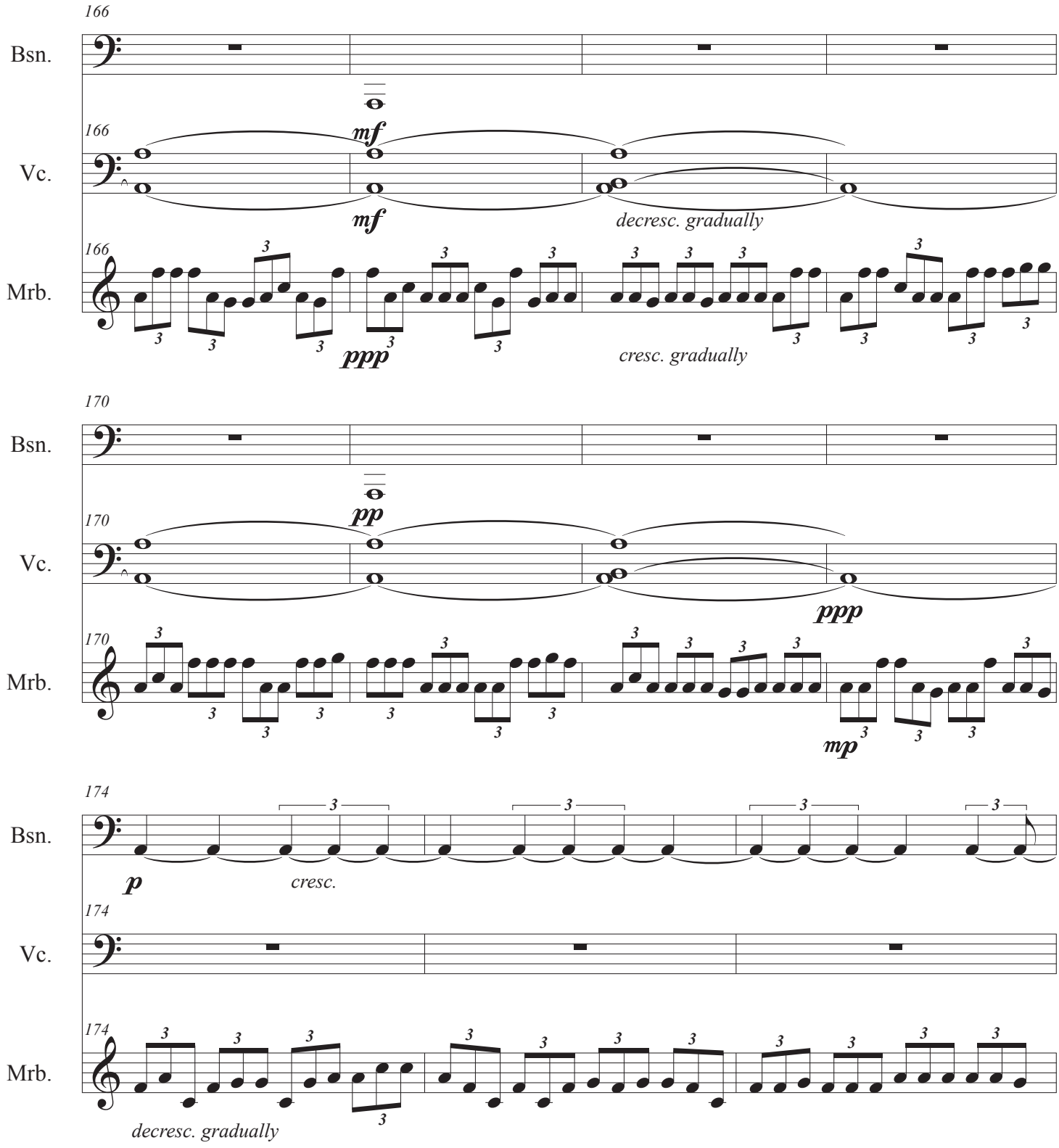
Bsn.
162
Vc.
p
cresc. gradually
162
Mrb.
decresc. gradually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Bsn.
166
Vc.
mf
mf
decresc. gradually
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Mrb.
ppp
cresc. gradually
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Bsn.
170
Vc.
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ppp
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Mrb.
mp
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Bsn.
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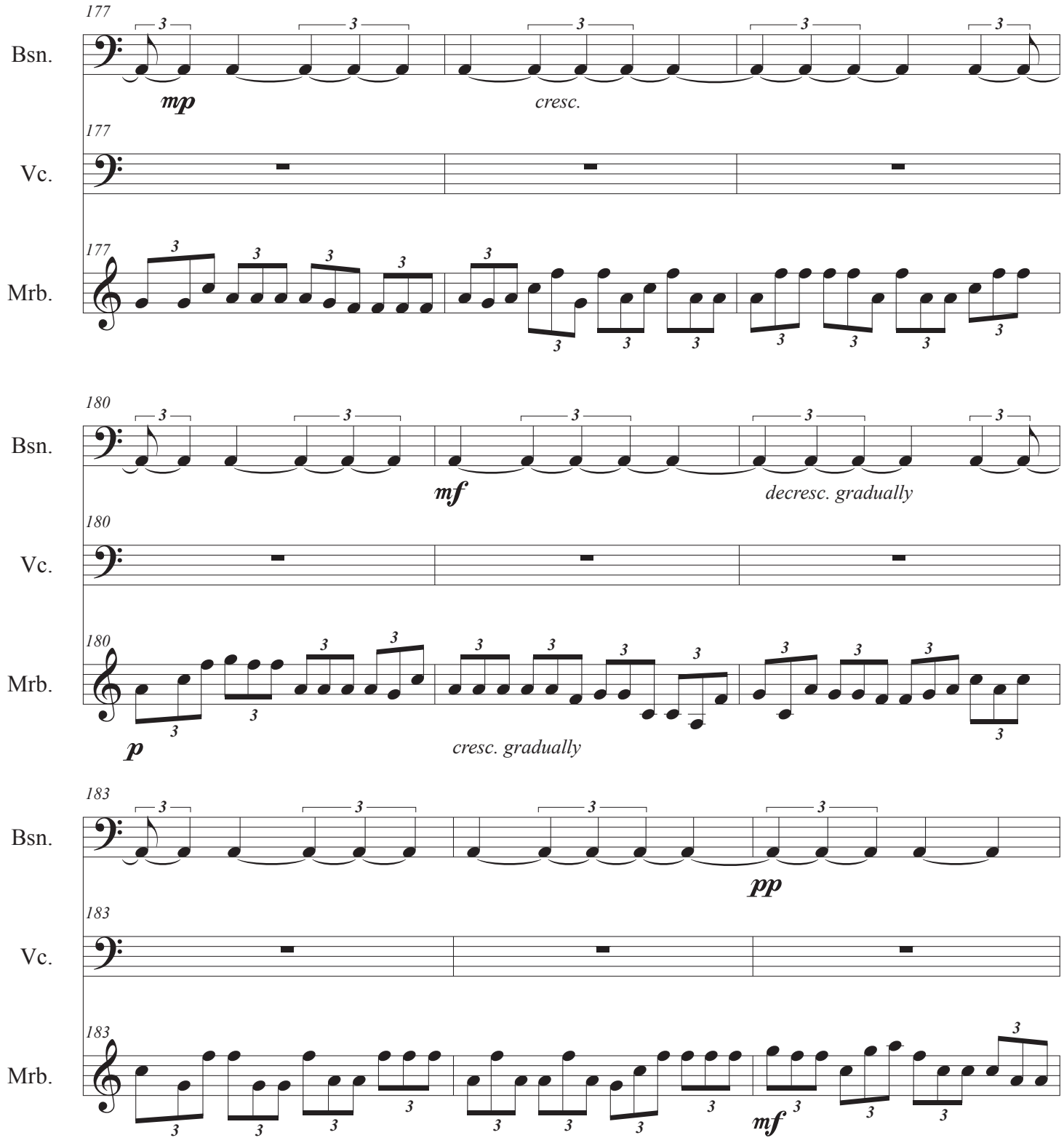
cresc.
174
Vc.
174
Mrb.
decresc. gradually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Bsn.
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Vc.
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Mrb.
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Bsn.
mf
decresc. gradually
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Vc.
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Mrb.
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cresc. gradually
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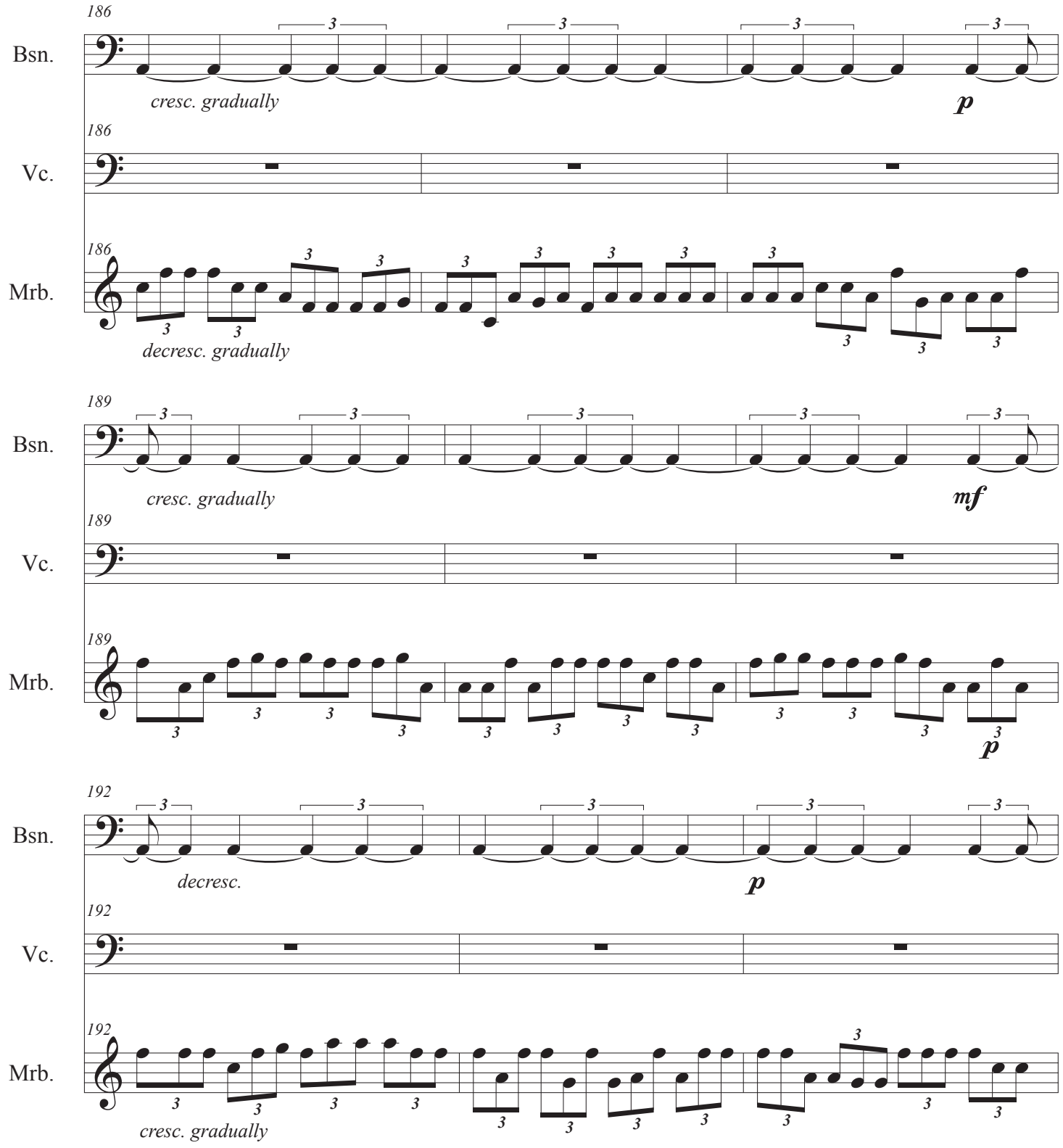
Vc.
183
Mrb.
mf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Bsn.
cresc. gradually
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186
Vc.
186
Mrb.
decresc. gradually
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Bsn.
cresc. gradually
mf
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Vc.
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Mrb.
p
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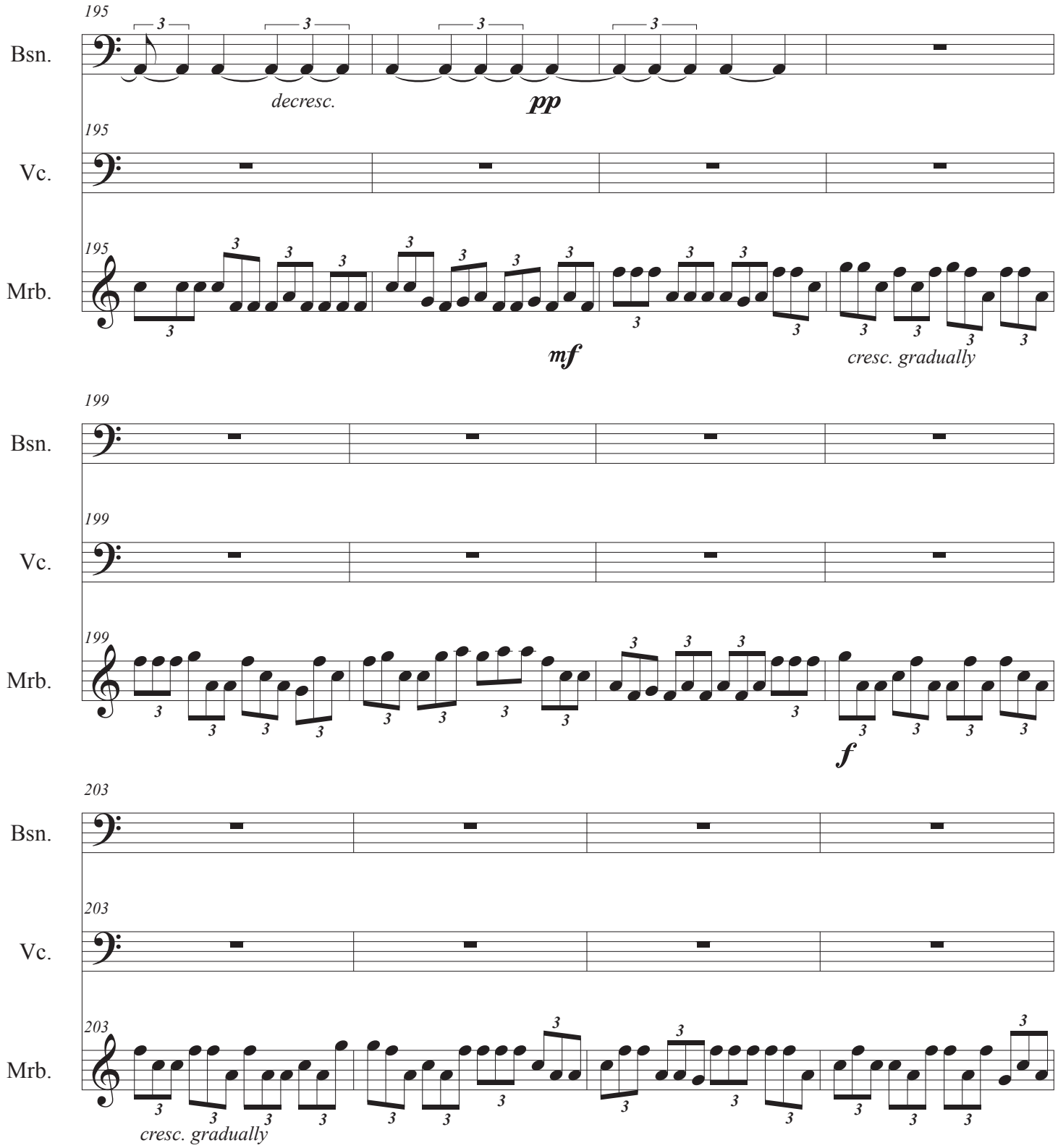
decresc.
p
192
Vc.
192
Mrb.
cresc. gradually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Bsn.
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Vc.
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Mrb.
mf
cresc. gradually
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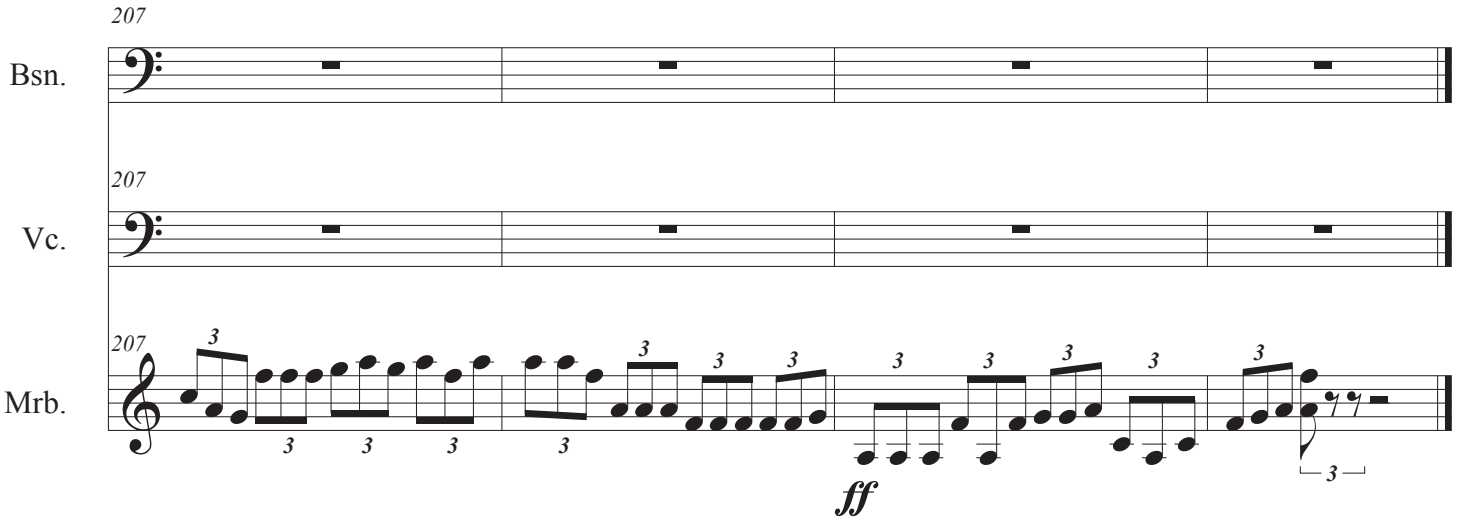
Vc.
203
Mrb.
cresc. gradually

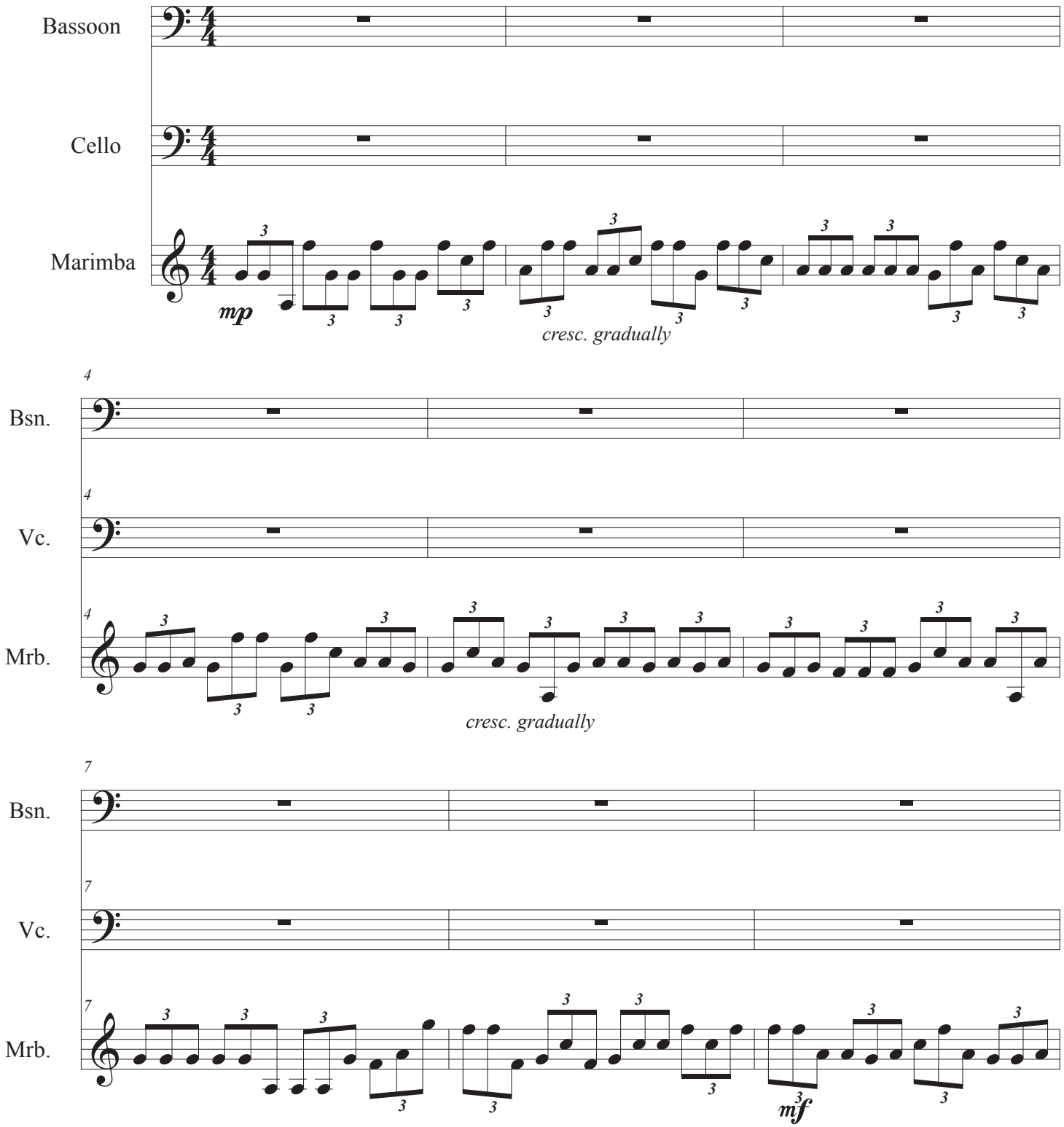

207
Bsn.
207
Vc.
207
Mrb.
ff

Score

Epigenetic Switches

2. Methylation

Paul Walde



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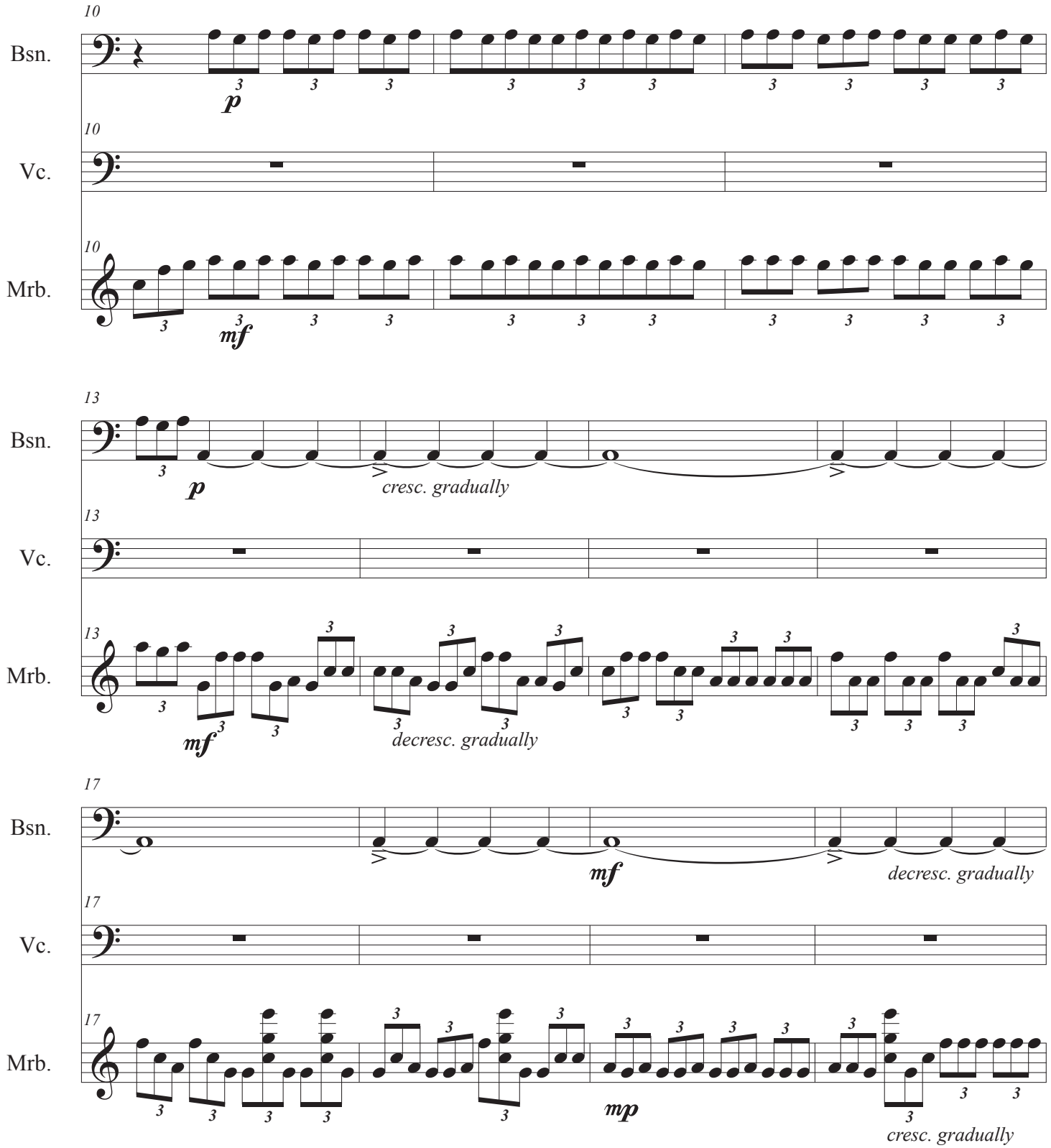
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Vc.
10
Mrb.
mf
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Bsn.
p
cresc. gradually
13
Vc.
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Mrb.
mf
decresc. gradually
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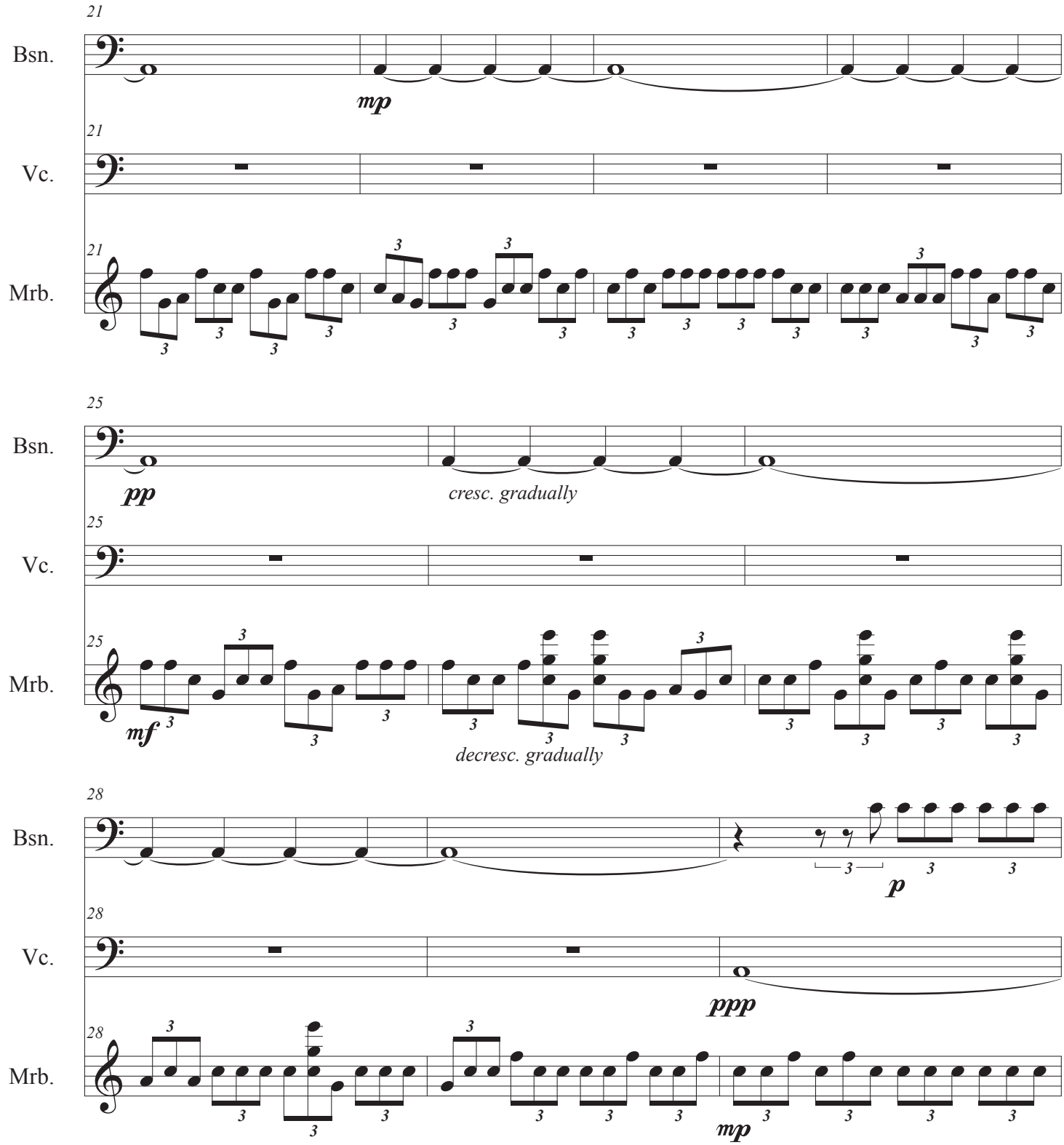
Bsn.
mf
decresc. gradually
17
Vc.
17
Mrb.
mp
cresc. gradually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Bsn.
mp
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Vc.
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Mrb.
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Bsn.
pp
cresc. gradually
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Vc.
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Mrb.
mf
decresc. gradually
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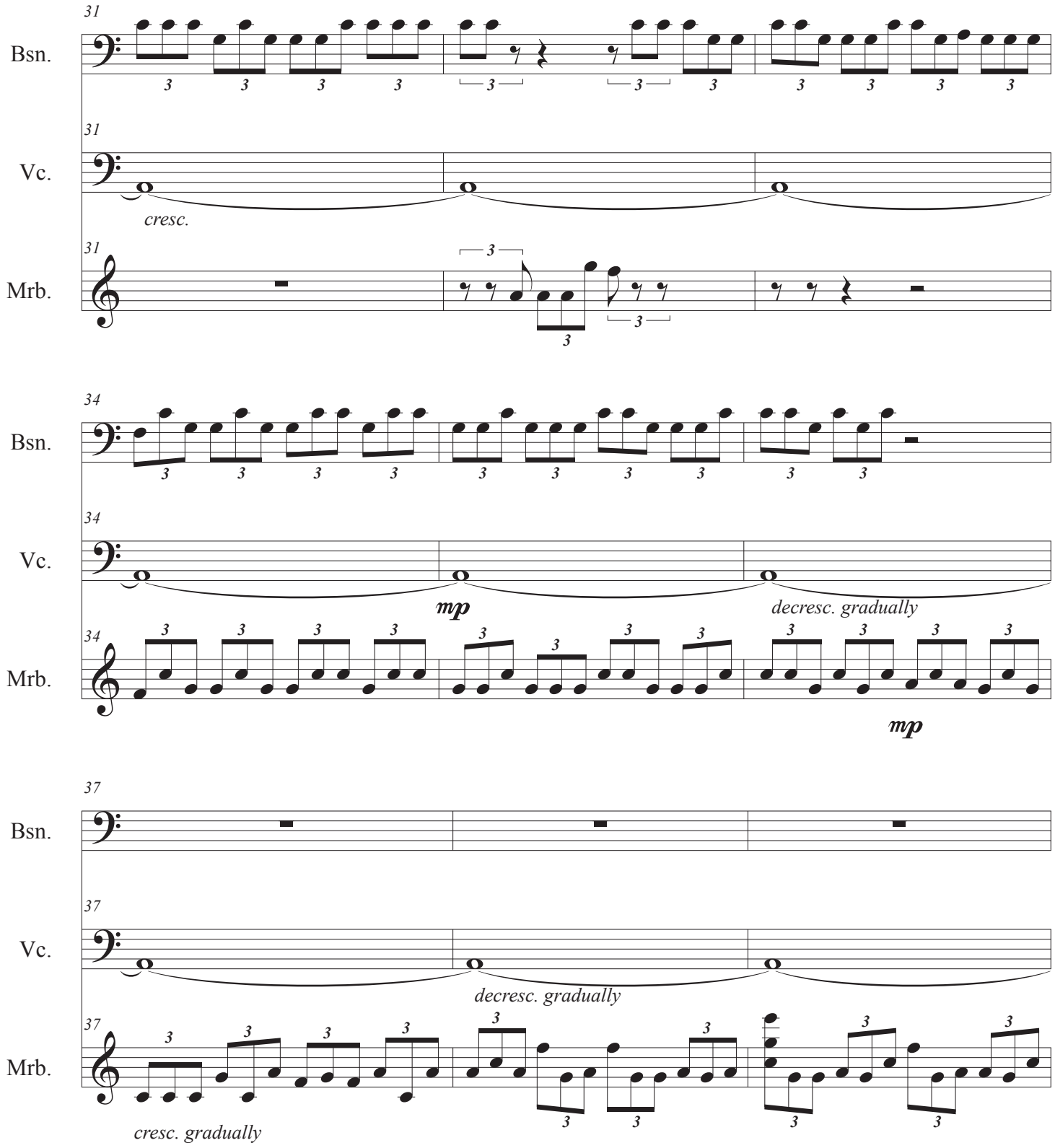
Bsn.
p
28
Vc.
ppp
28
Mrb.
mp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Bsn.
31
Vc.
cresc.
31
Mrb.
34
Bsn.
34
Vc.
mp
decresc. gradually
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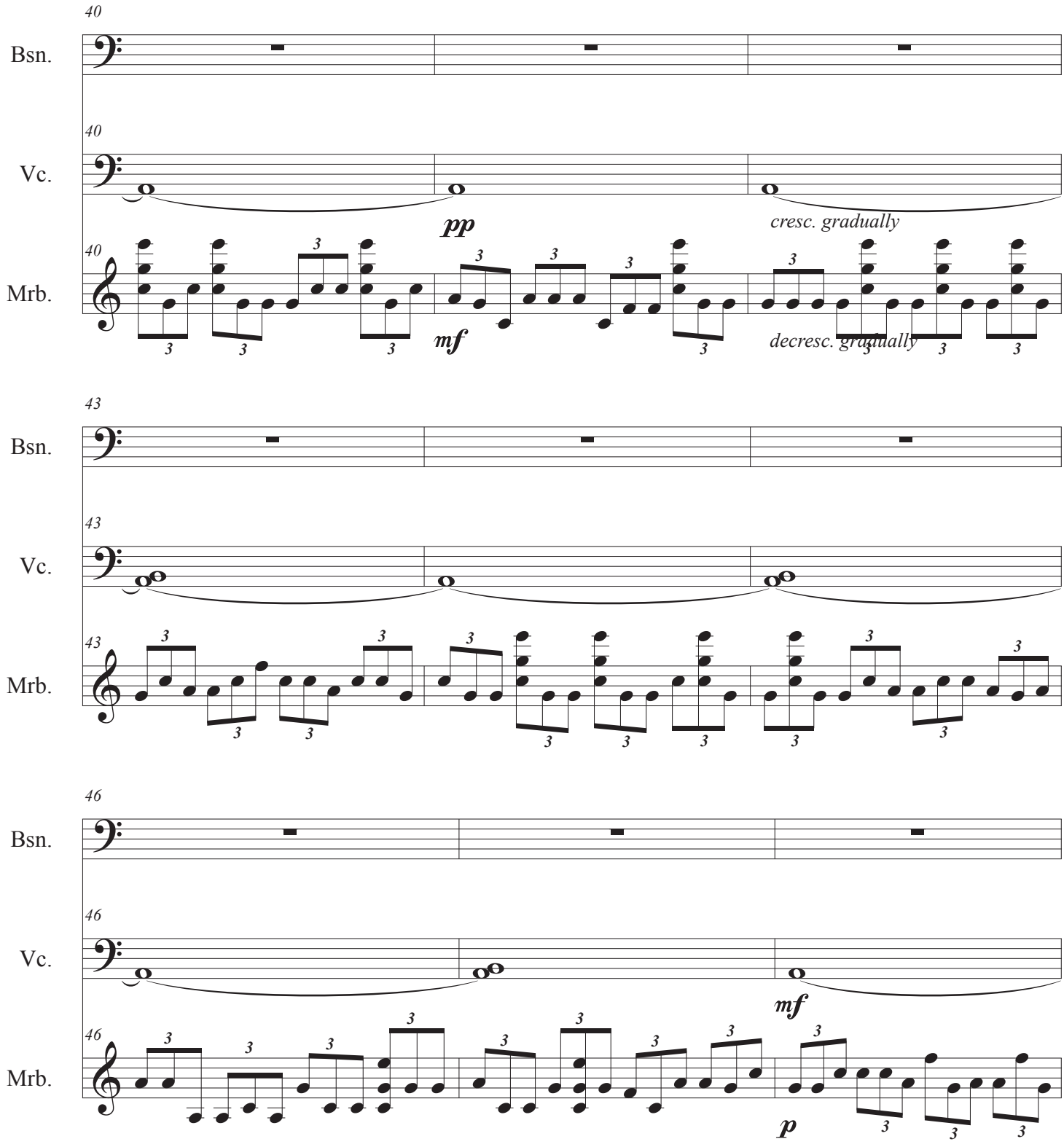
Mrb.
mp
37
Bsn.
37
Vc.
decresc. gradually
37
Mrb.
cresc. gradually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Bsn.
40
Vc.
pp
cresc. gradually
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Mrb.
mf
decresc. gradually
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Bsn.
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Vc.
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Mrb.
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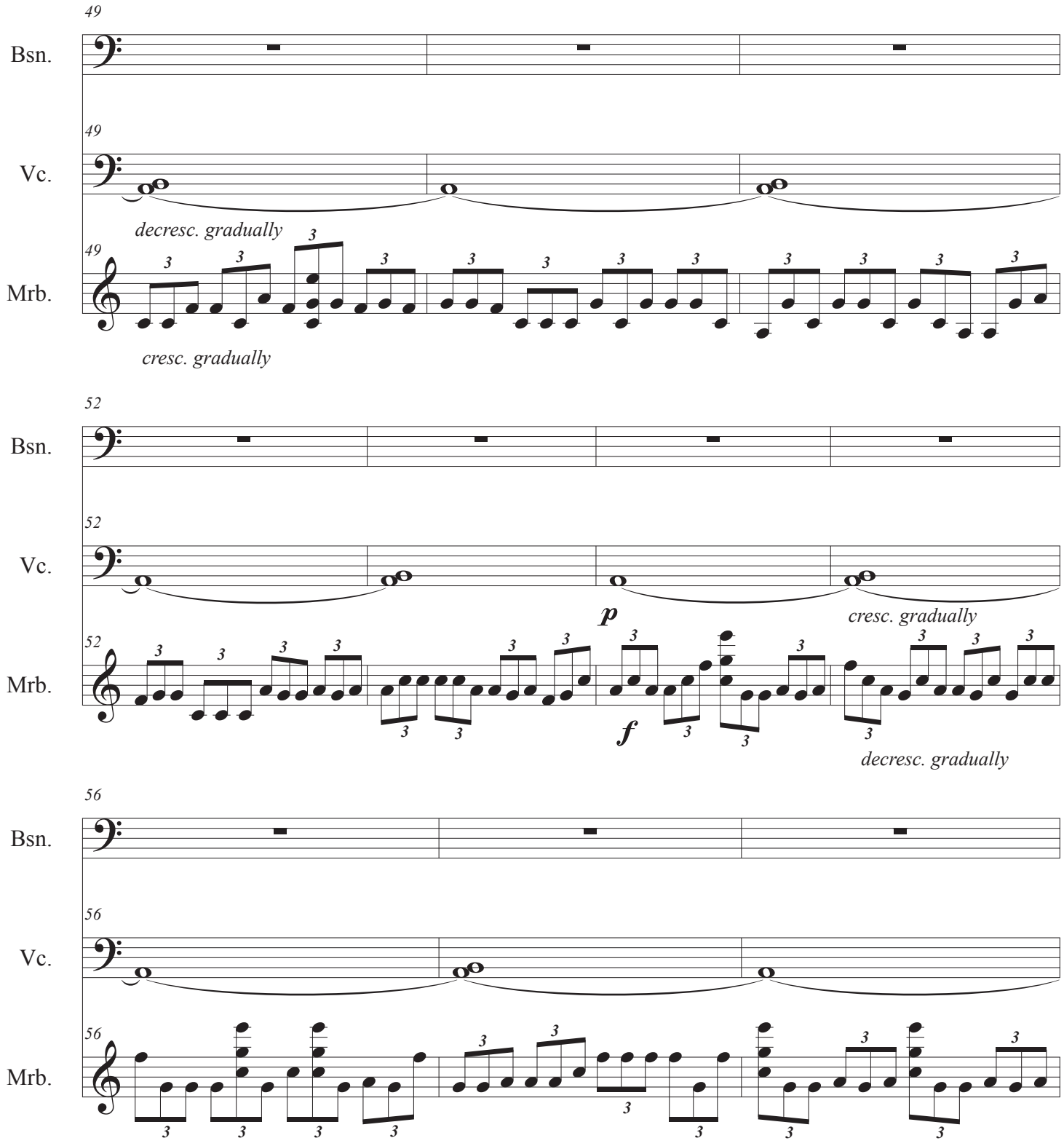
Bsn.
46
Vc.
mf
46
Mrb.
p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Bsn.
49
Vc.
decresc. gradually
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Mrb.
cresc. gradually
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Bsn.
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Vc.
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cresc. gradually
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Mrb.
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decresc. gradually
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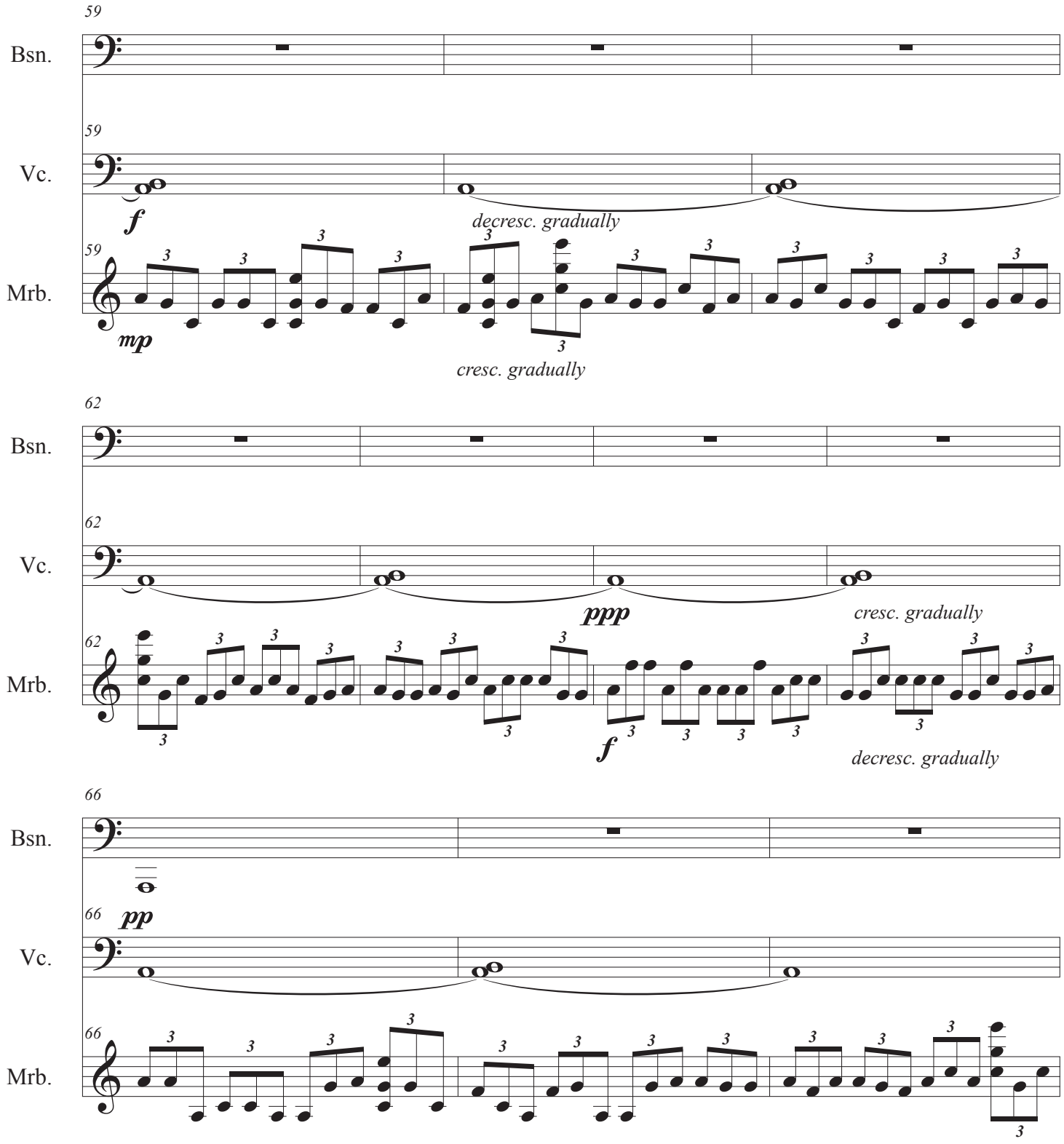
Bsn.
56
Vc.
56
Mrb.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Bsn.
59
Vc.
f
decresc. gradually
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Mrb.
mp
cresc. gradually
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Bsn.
62
Vc.
ppp
cresc. gradually
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Mrb.
f
decresc. gradually
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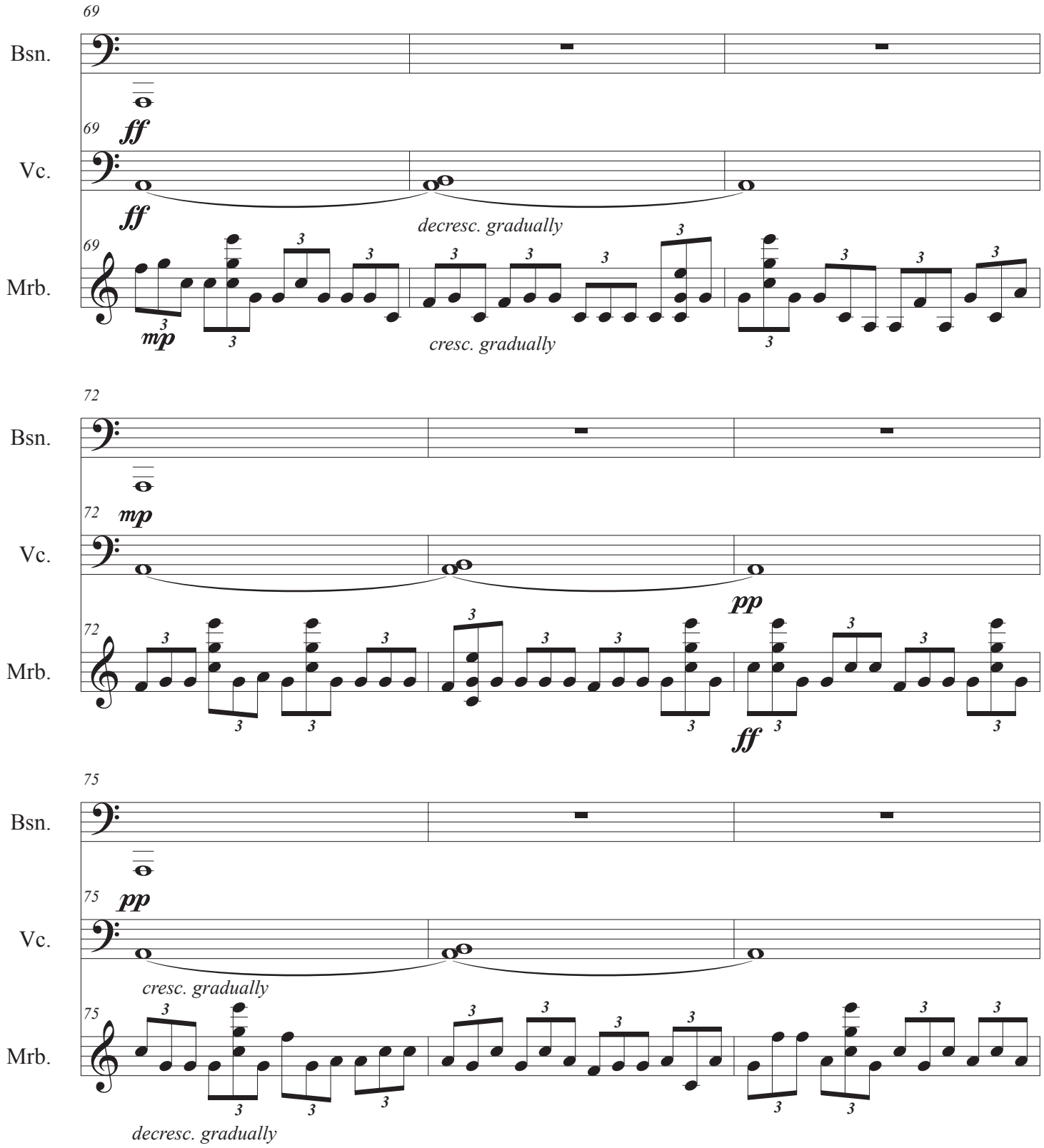
Bsn.
pp
66
Vc.
66
Mrb.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Bsn.
69
ff
Vc.
ff
decresc. gradually
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Mrb.
mp
cresc. gradually
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Bsn.
72
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Vc.
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Mrb.
ff
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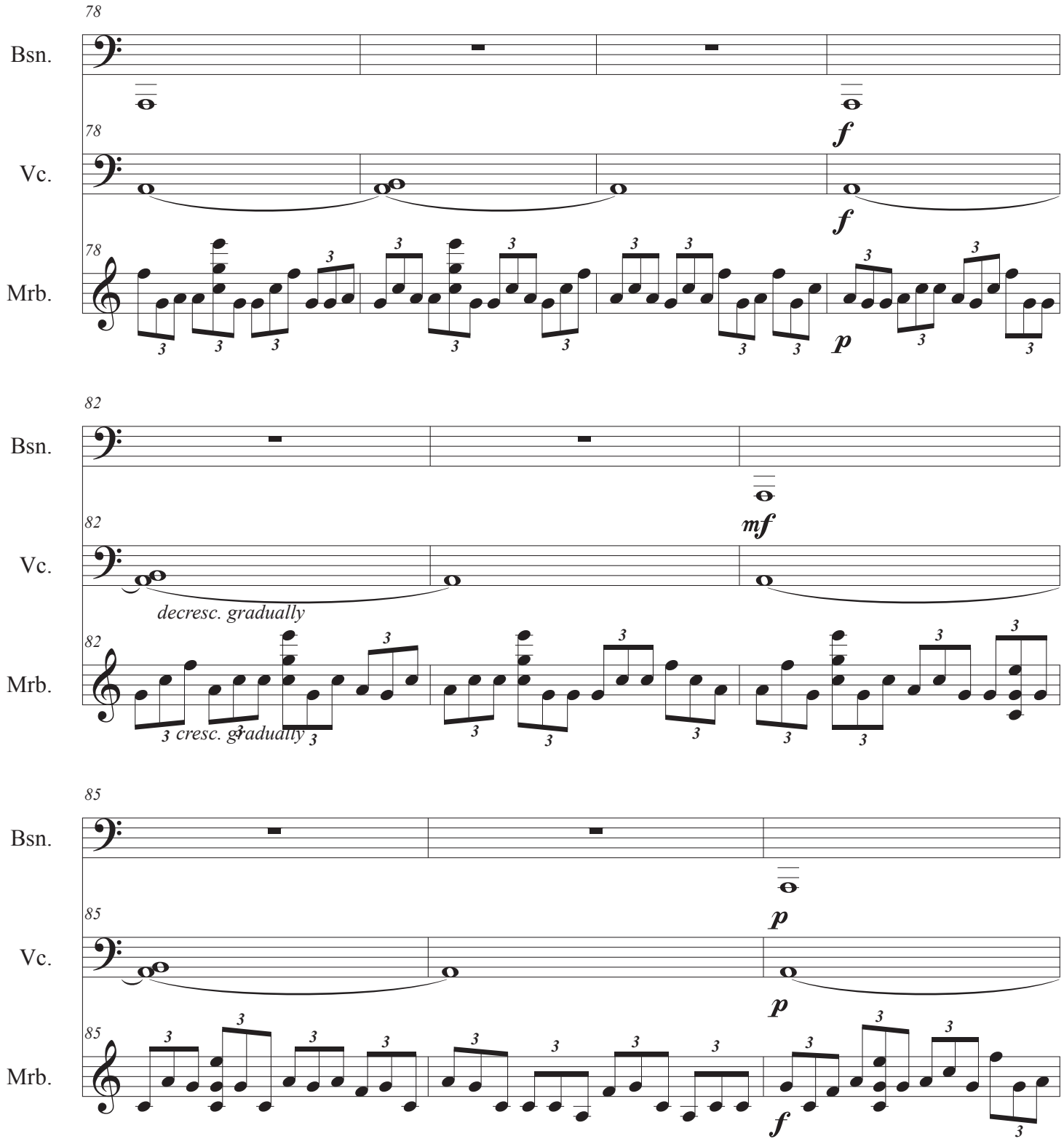
75
pp
Vc.
cresc. gradually
75
Mrb.
decresc. gradually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Bsn.
78
Vc.
78
Mrb.
f
f
p
82
Bsn.
82
Vc.
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Mrb.
mf
decresc. gradually
cresc. gradually
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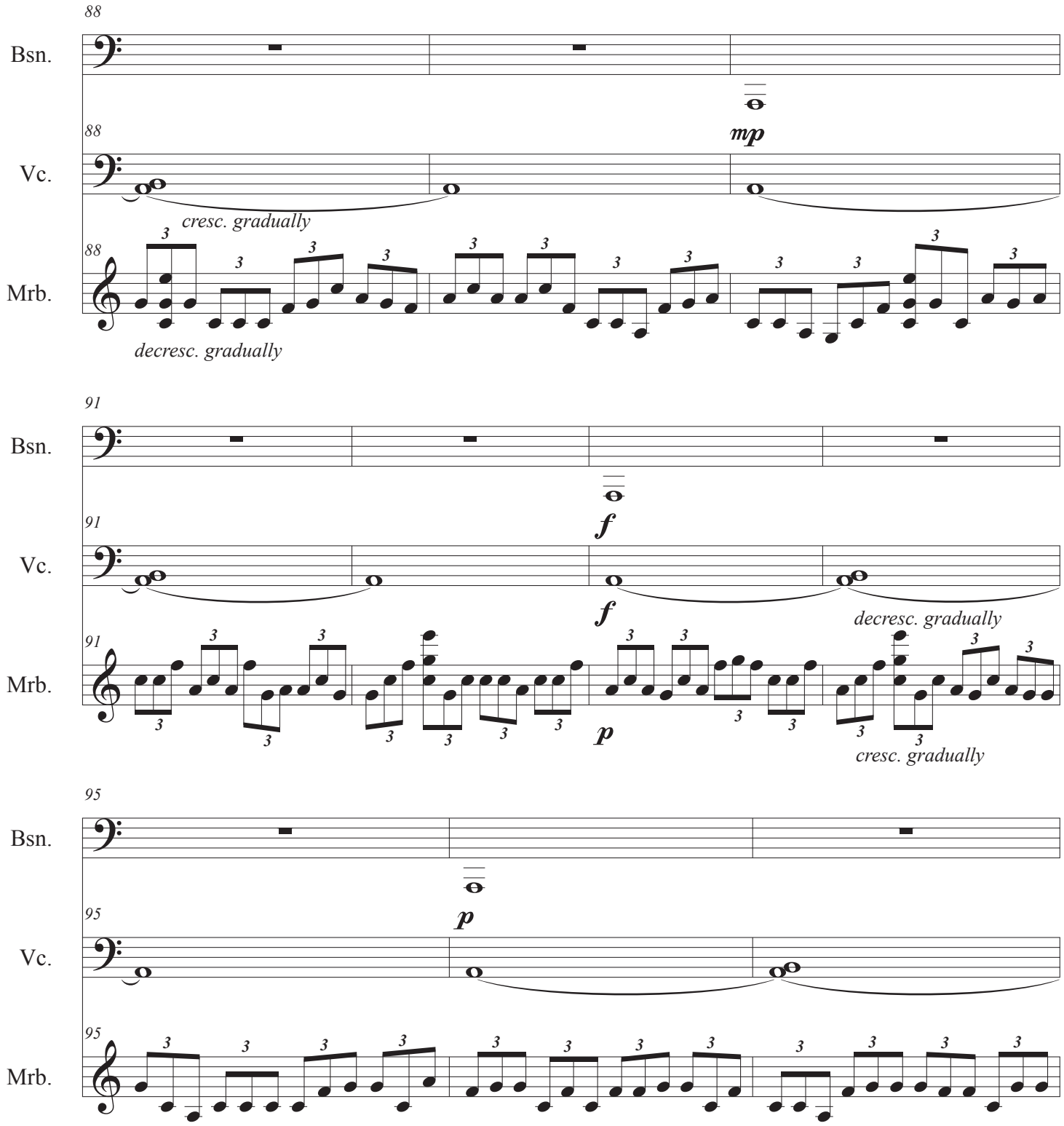
85
Vc.
85
Mrb.
p
p
f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Bsn.
88
Vc.
mp
cresc. gradually
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Mrb.
decresc. gradually
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Bsn.
f
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Vc.
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decresc. gradually
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Mrb.
p
cresc. gradually
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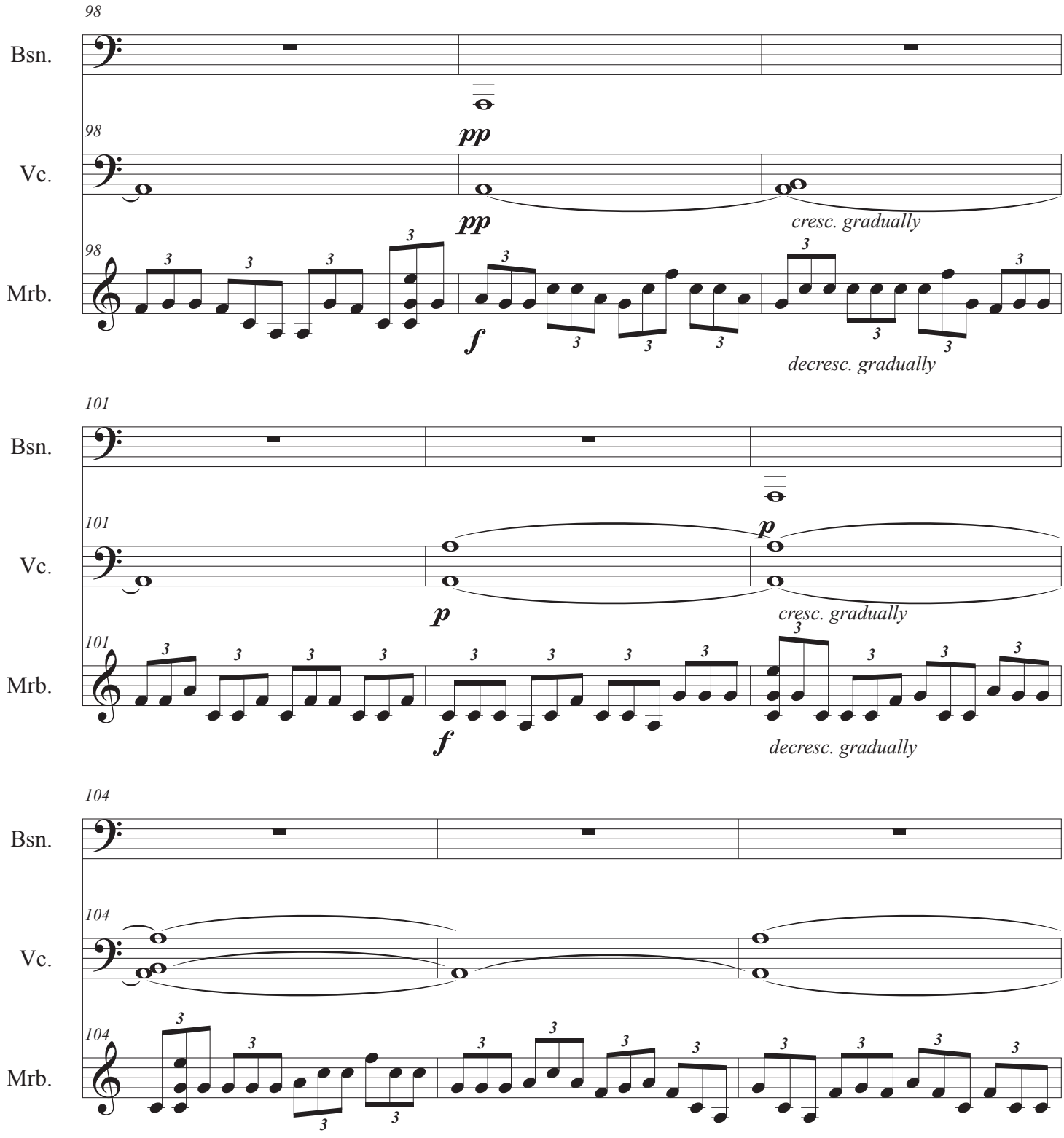
Bsn.
p
95
Vc.
95
Mrb.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Bsn.
98
Vc.
pp
pp
cresc. gradually
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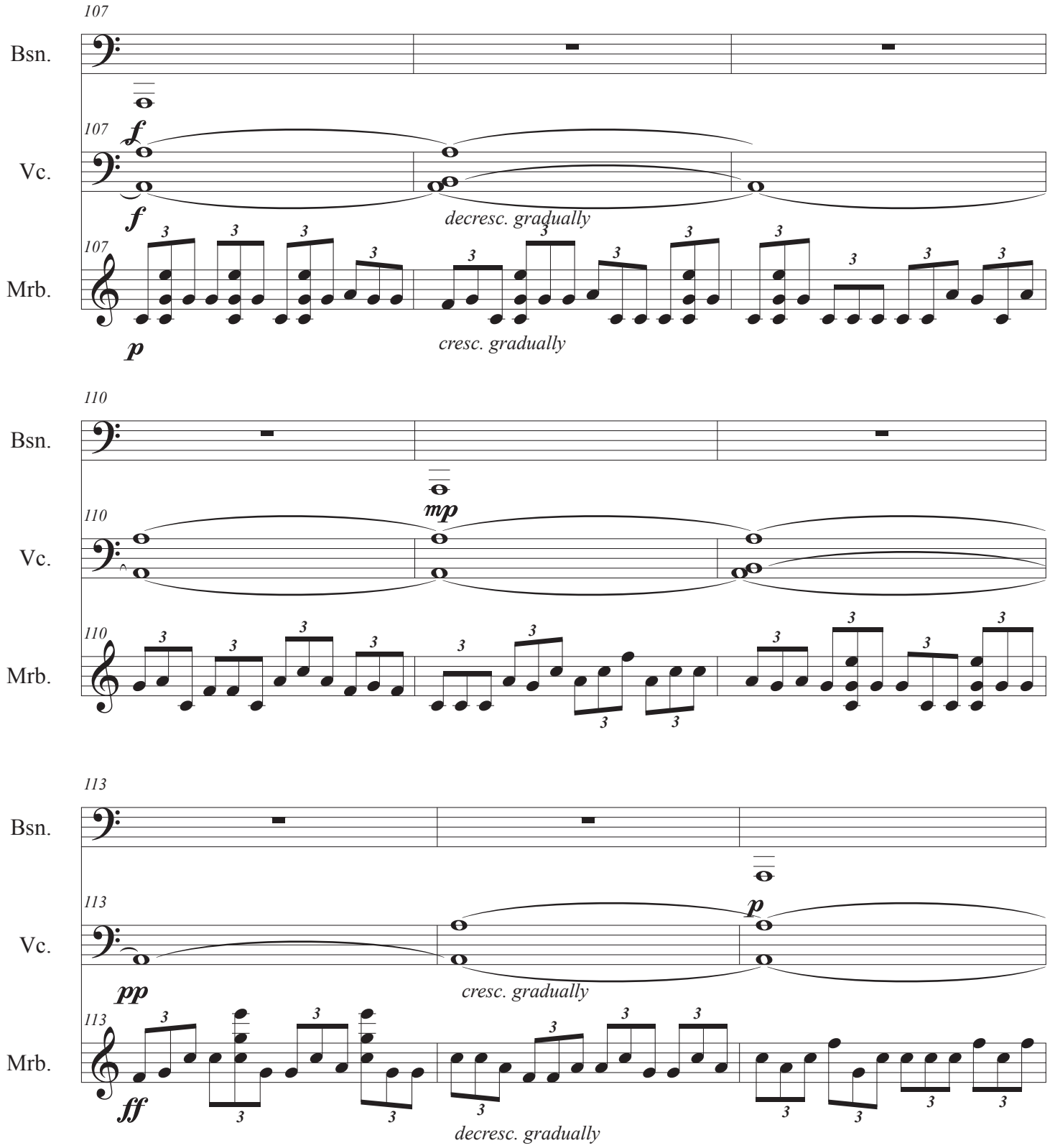
Mrb.
f
decresc. gradually
101
Bsn.
101
Vc.
p
p
cresc. gradually
101
Mrb.
f
decresc. gradually
104
Bsn.
104
Vc.
104
Mrb.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Bsn.
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Vc.
f
f
decresc. gradually
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Mrb.
p
cresc. gradually
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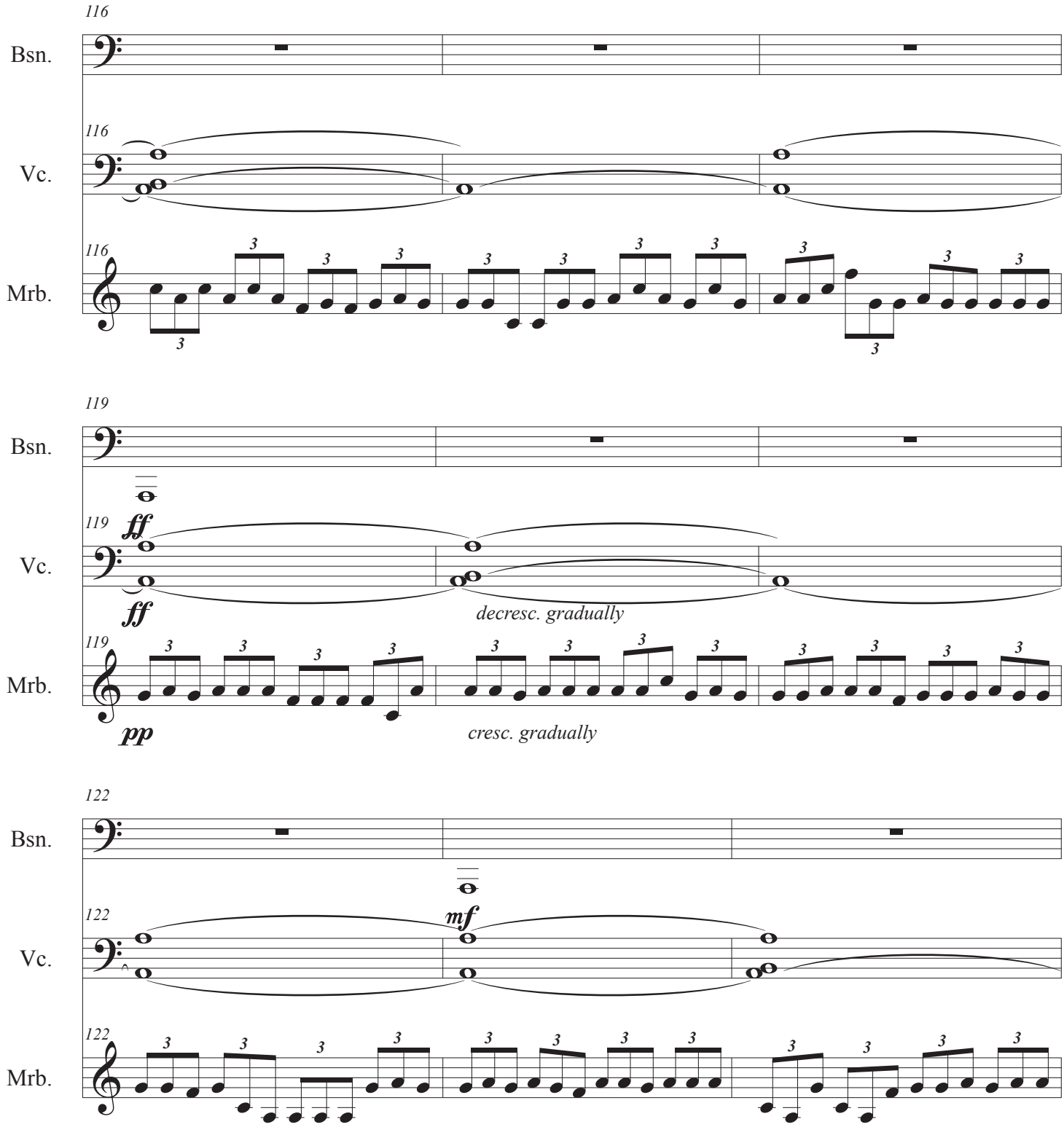
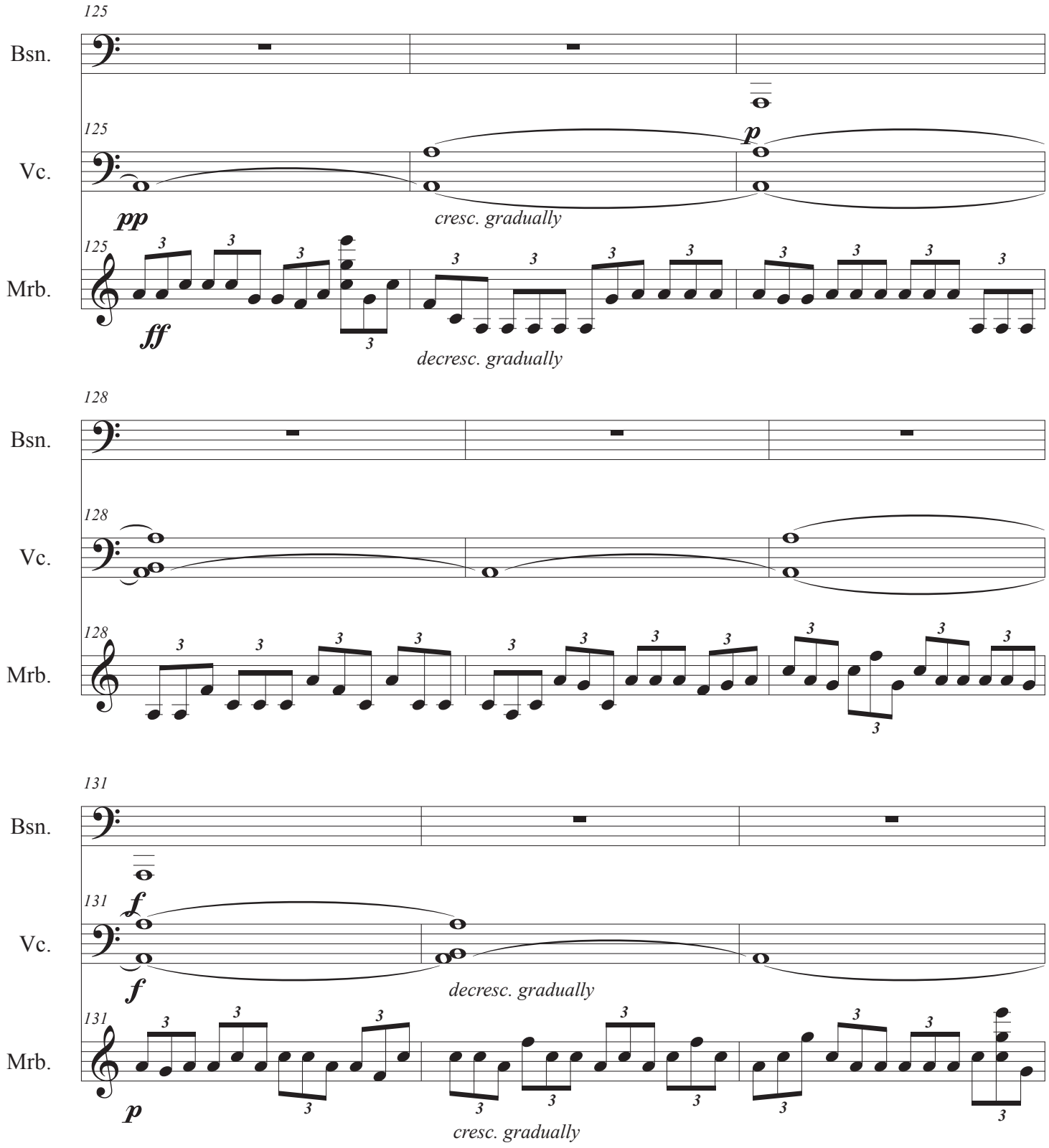
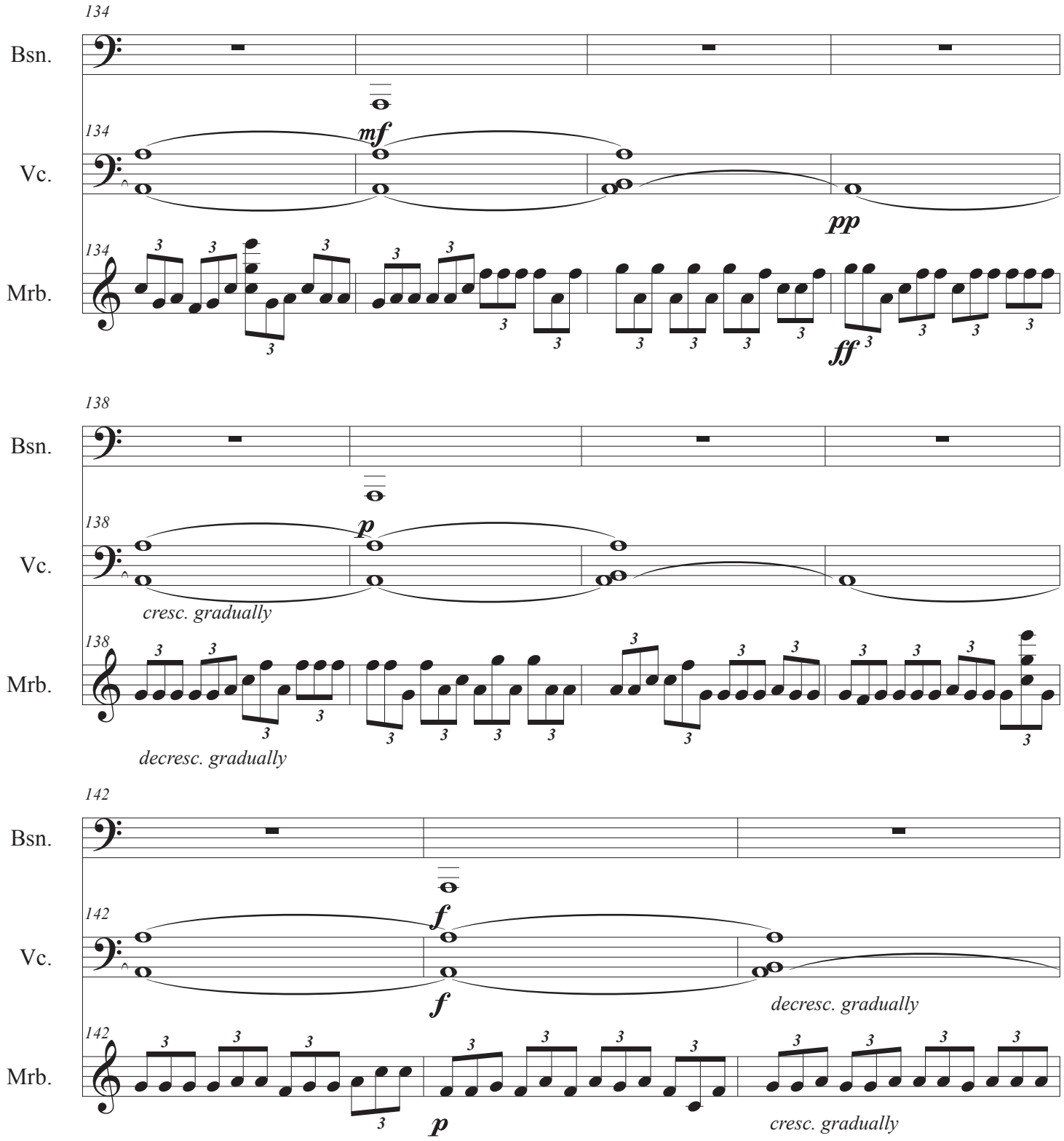
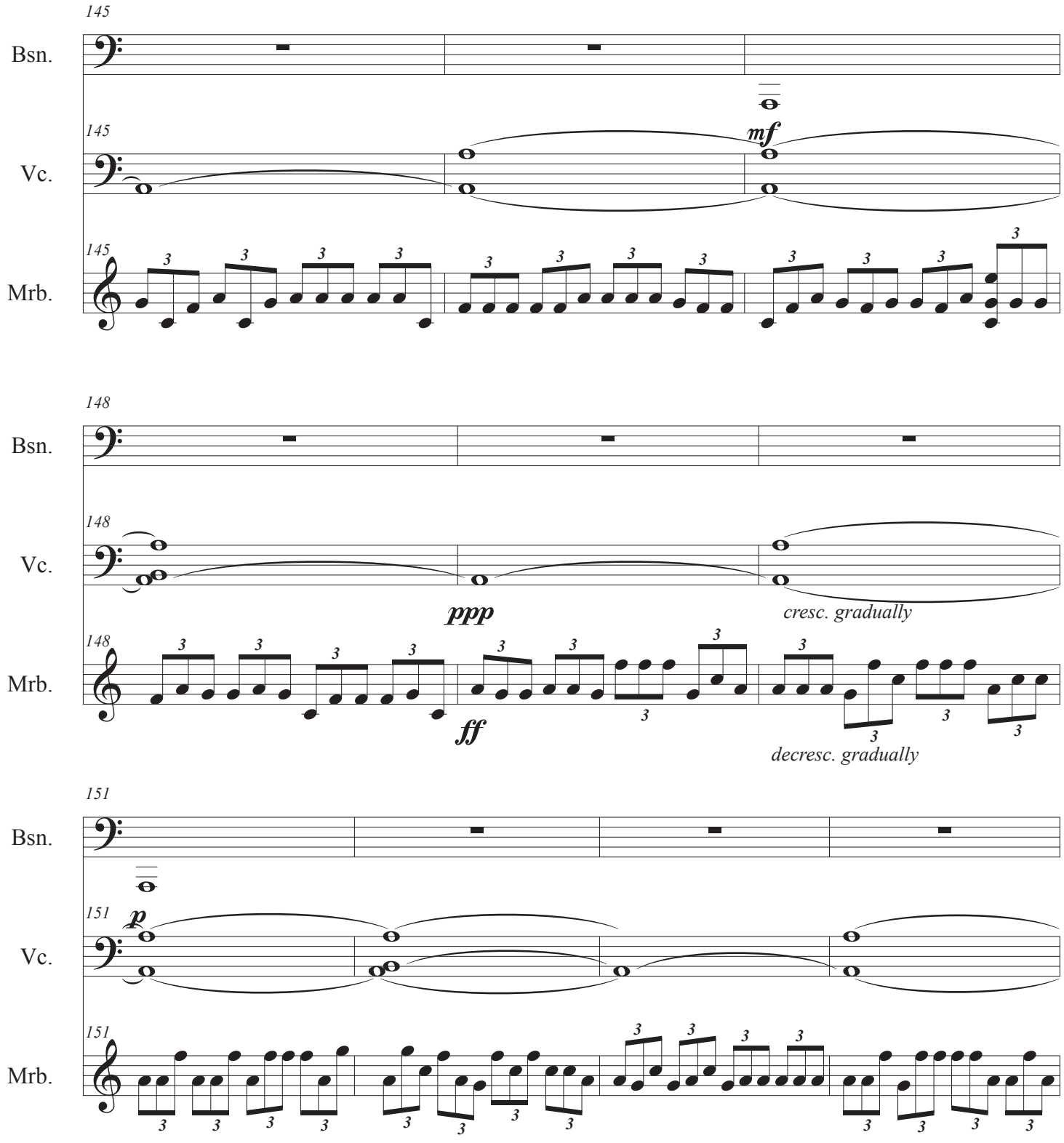
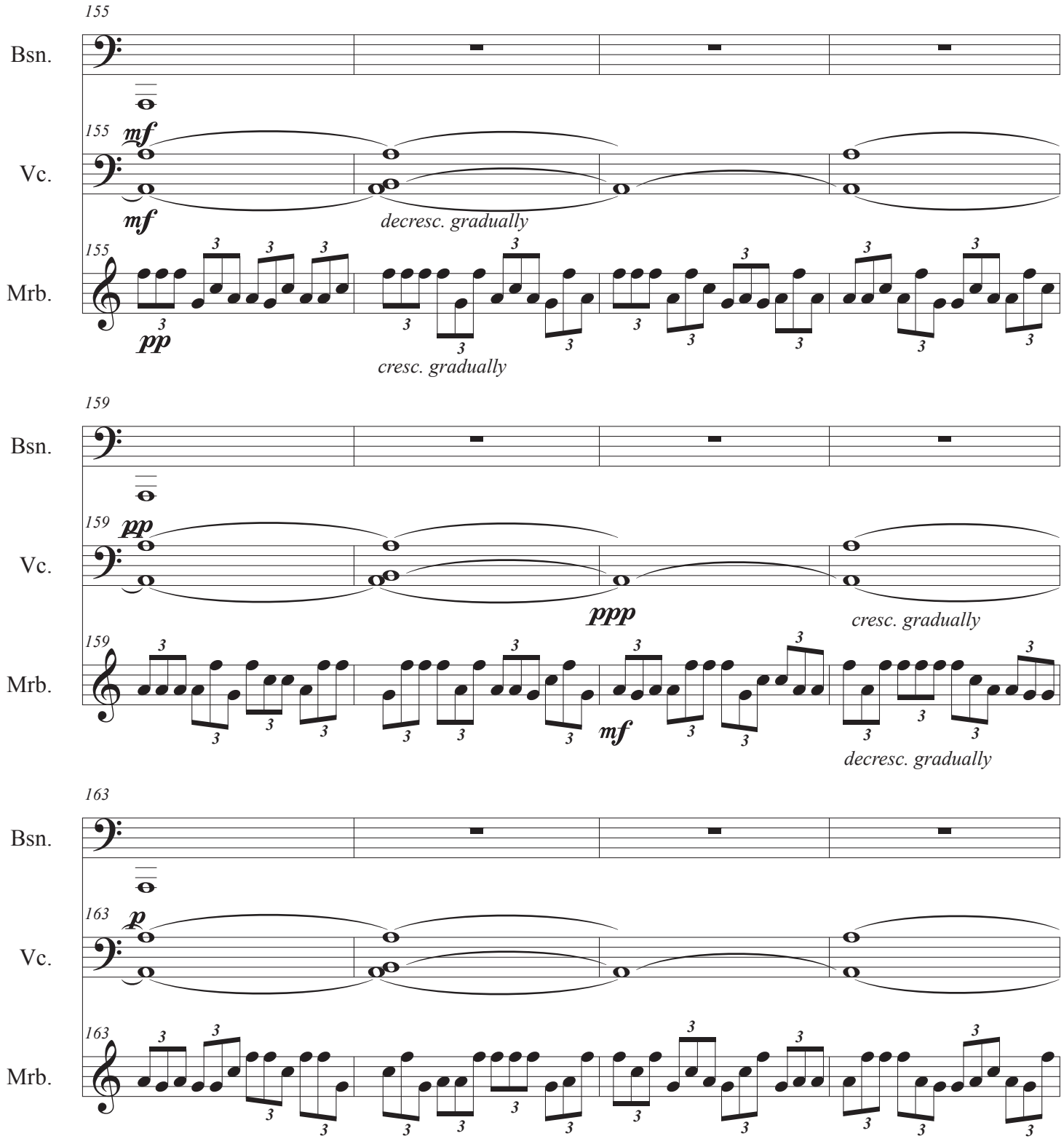
Bsn.
110
Vc.
mp
110
Mrb.
113
Bsn.
113
Vc.
p
pp
cresc. gradually
113
Mrb.
ff
decresc. gradually

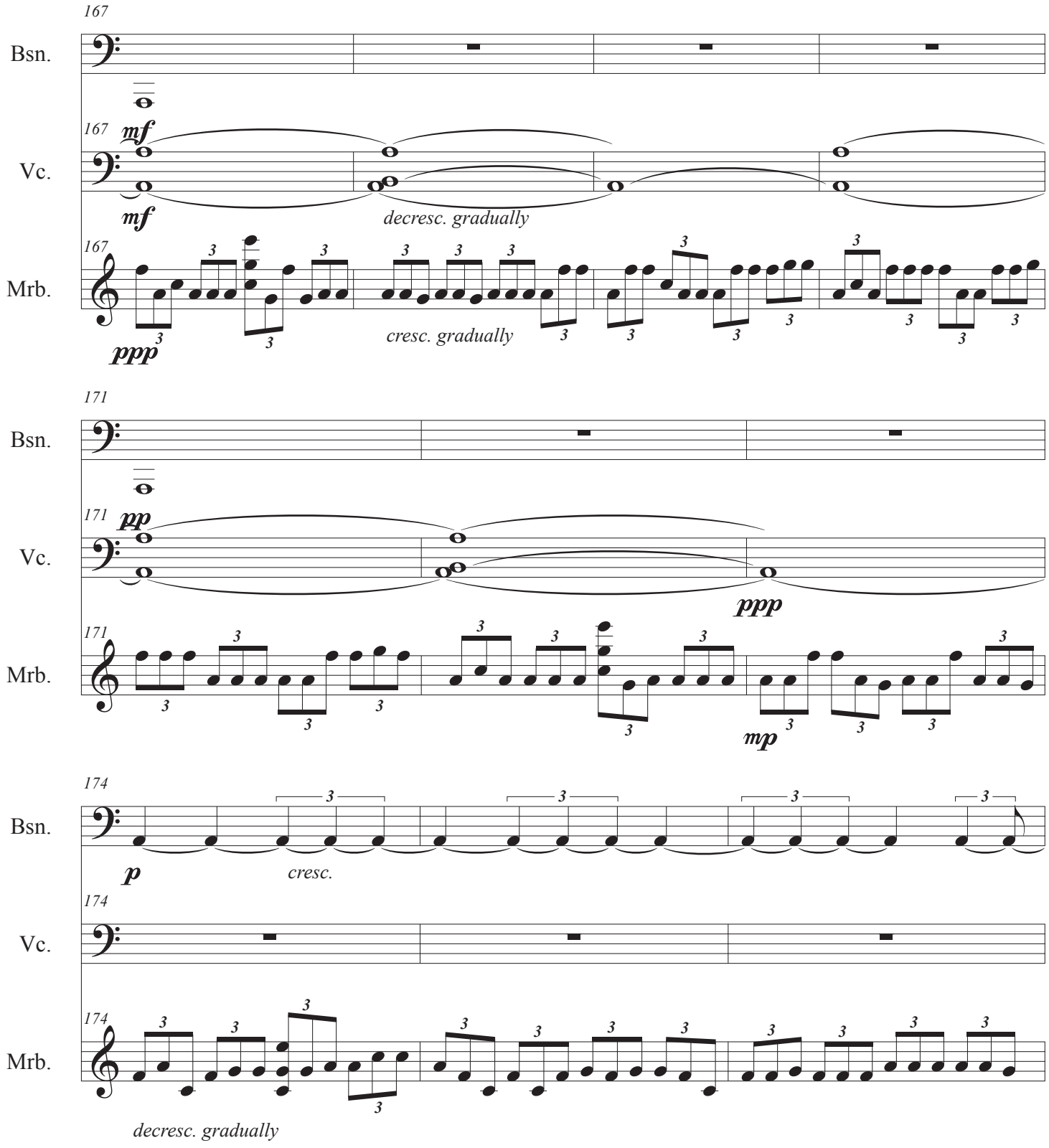

116
Bsn.
116
Vc.
116
Mrb.
119
Bsn.
119
ff
Vc.
ff
decresc. gradually
119
Mrb.
pp
cresc. gradually
122
Bsn.
122
mf
Vc.
122
Mrb.

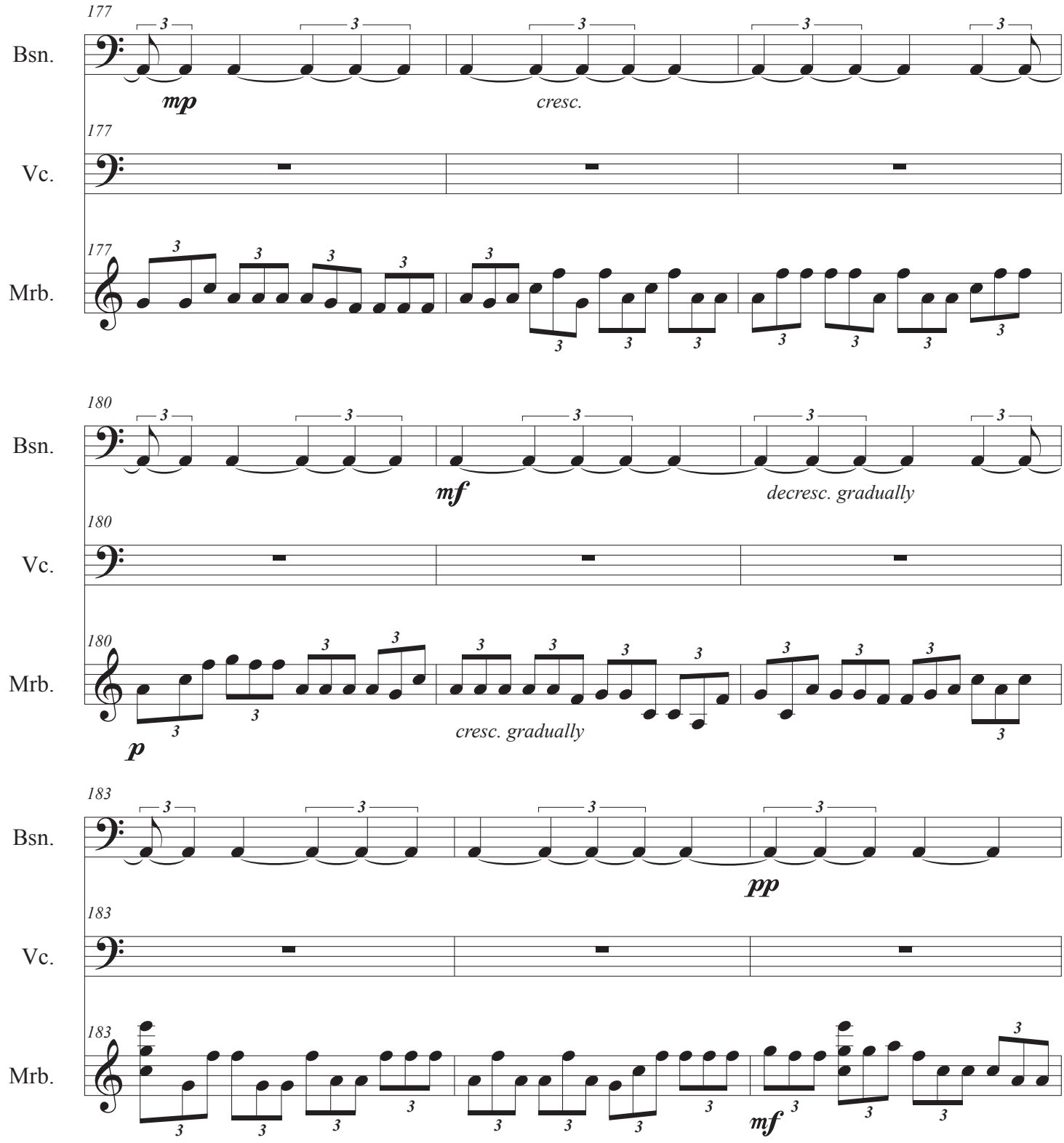

125
Bsn.
125
Vc.
pp
p
cresc. gradually
125
Mrb.
ff
decresc. gradually
128
Bsn.
128
Vc.
128
Mrb.
131
Bsn.
131
Vc.
f
f
decresc. gradually
131
Mrb.
p
cresc. gradually

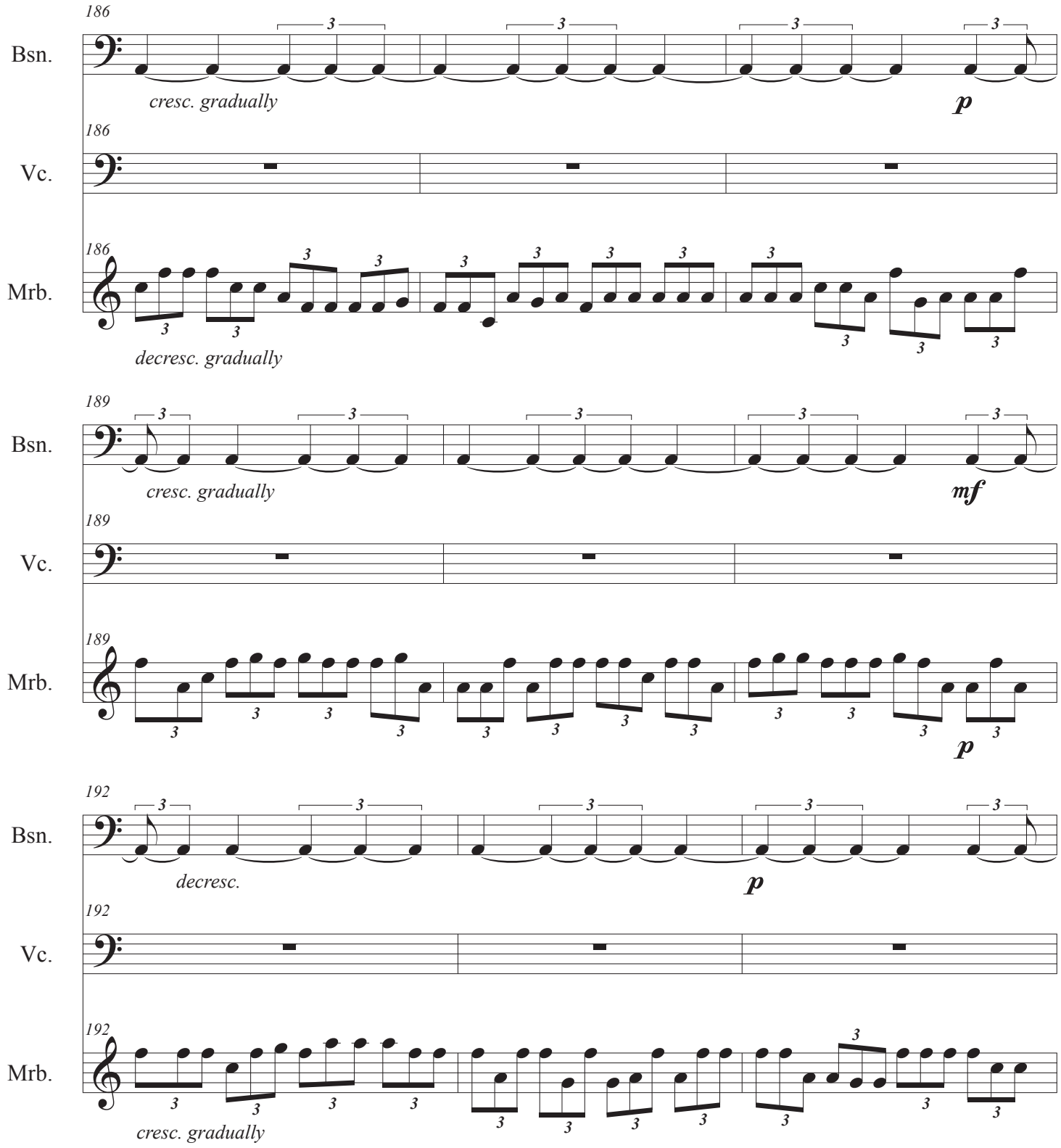

134
Bsn.
134
Vc.
mf
pp
134
Mrb.
ff
138
Bsn.
138
Vc.
p
cresc. gradually
138
Mrb.
decresc. gradually
142
Bsn.
142
Vc.
f
f
decresc. gradually
142
Mrb.
p
cresc. gradually

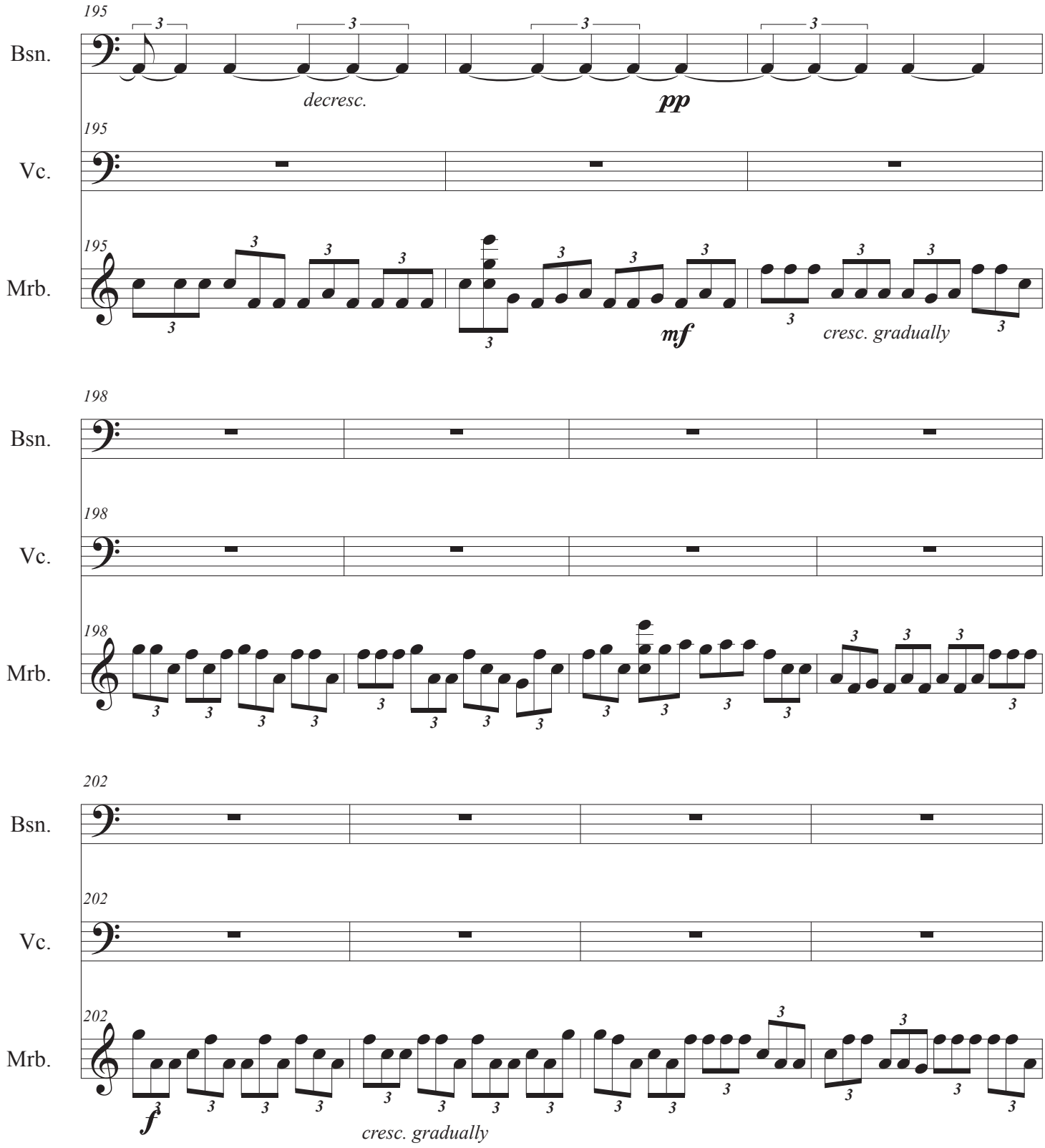

145
Bsn.
145
Vc.
mf
145
Mrb.
148
Bsn.
148
Vc.
ppp
cresc. gradually
148
Mrb.
ff
decresc. gradually
151
Bsn.
151
Vc.
p
151
Mrb.

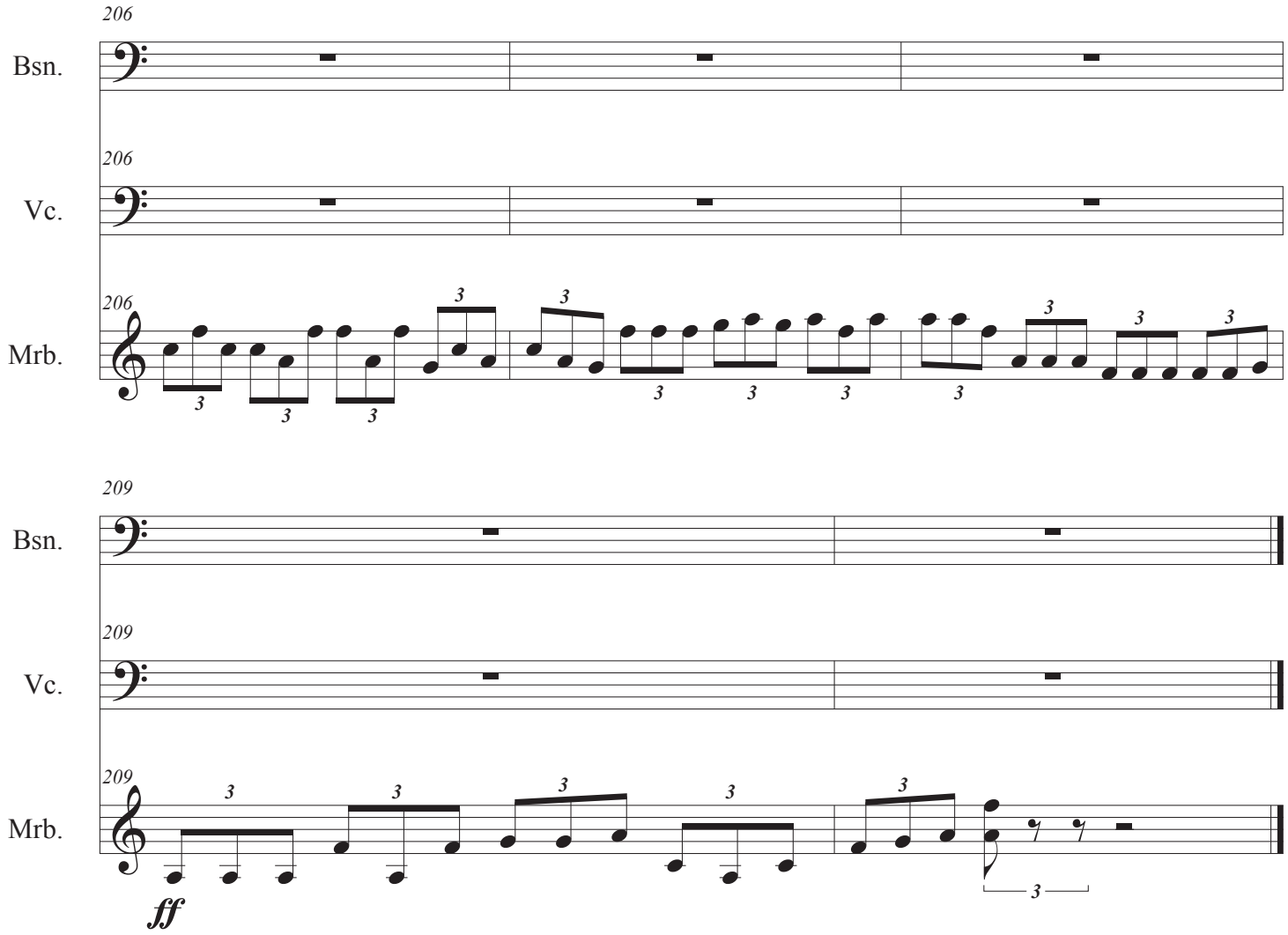

155
Bsn.
155
mf
Vc.
mf
decresc. gradually
155
Mrb.
pp
cresc. gradually
159
Bsn.
159
pp
Vc.
ppp
cresc. gradually
159
Mrb.
mf
decresc. gradually
163
Bsn.
163
p
Vc.
163
Mrb.


167
Bsn.
167
mf
Vc.
mf
decresc. gradually
167
Mrb.
ppp
cresc. gradually
171
Bsn.
171
pp
Vc.
ppp
171
Mrb.
mp
174
Bsn.
p
cresc.
174
Vc.
174
Mrb.
decresc. gradually


177
Bsn.
mp
cresc.
177
Vc.
177
Mrb.
180
Bsn.
mf
decresc. gradually
180
Vc.
180
Mrb.
p
cresc. gradually
183
Bsn.
pp
183
Vc.
183
Mrb.
mf


186
Bsn.
cresc. gradually
p
186
Vc.
186
Mrb.
decresc. gradually
189
Bsn.
cresc. gradually
mf
189
Vc.
189
Mrb.
p
192
Bsn.
decresc.
p
192
Vc.
192
Mrb.
cresc. gradually


195
Bsn.
decresc.
pp
195
Vc.
195
Mrb.
mf
cresc. gradually
198
Bsn.
198
Vc.
198
Mrb.
202
Bsn.
202
Vc.
202
Mrb.
f
cresc. gradually

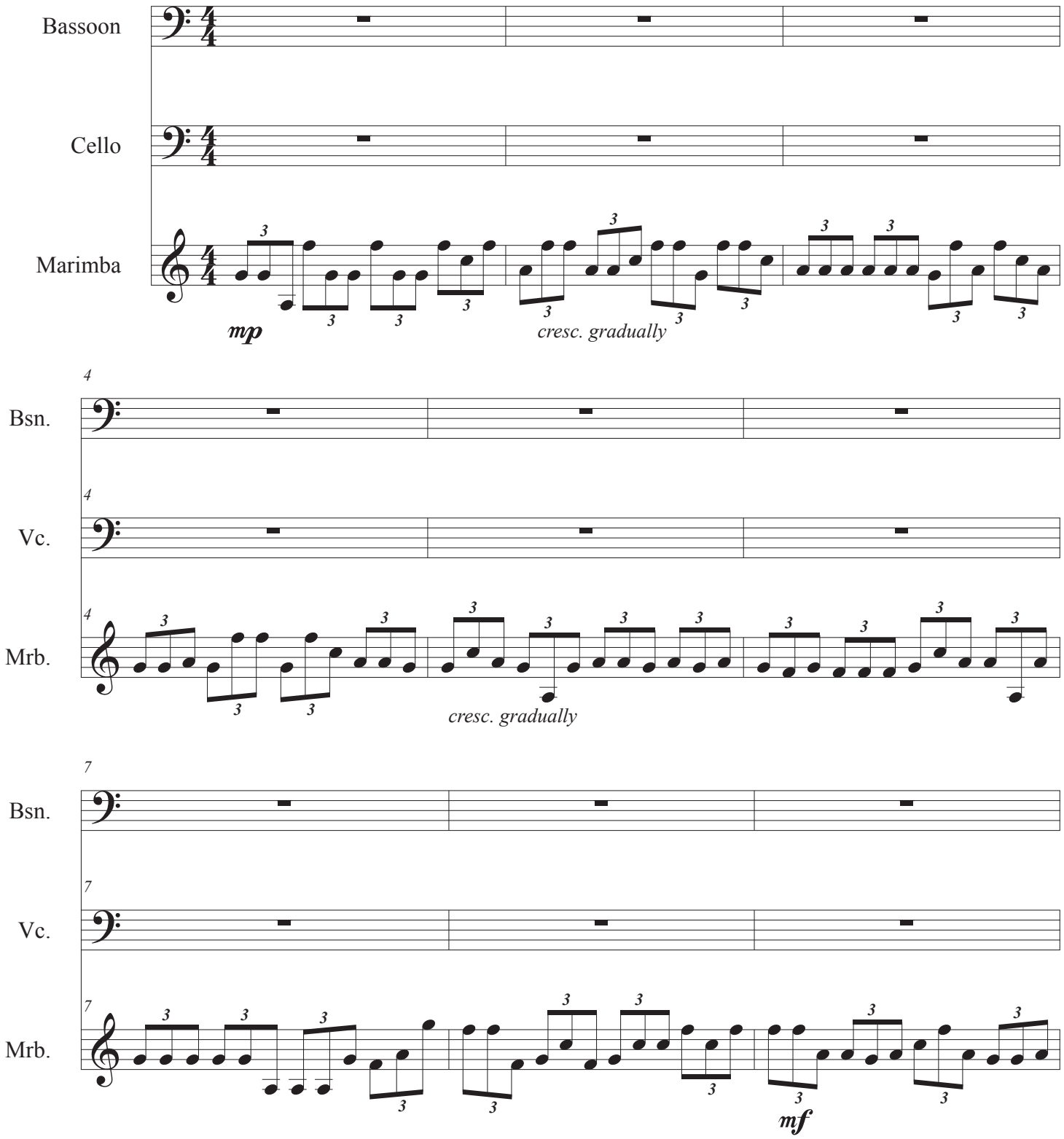

206
Bsn.
206
Vc.
206
Mrb.
209
Bsn.
209
Vc.
209
Mrb.
ff

Score

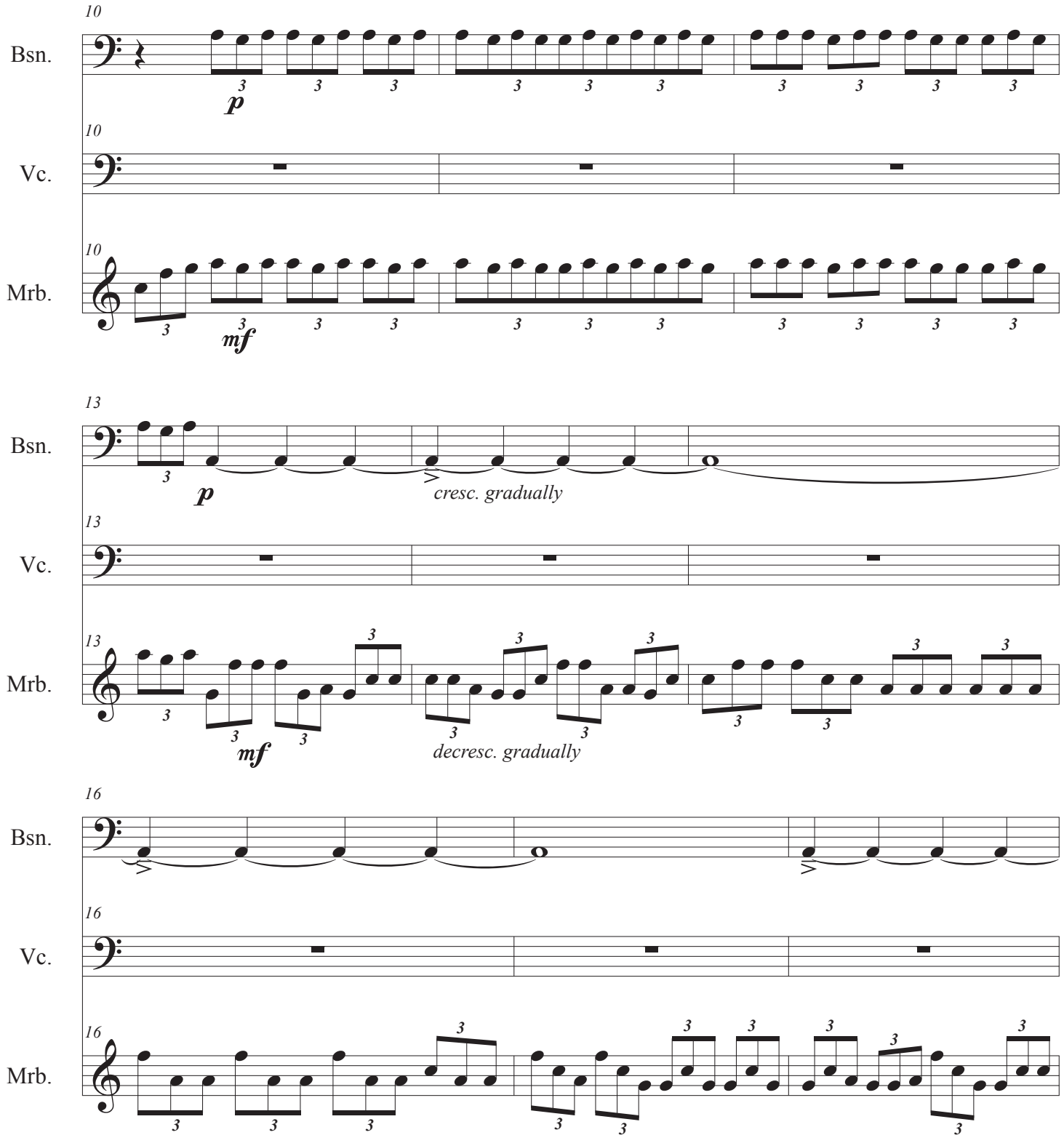
Epigenetic Switches

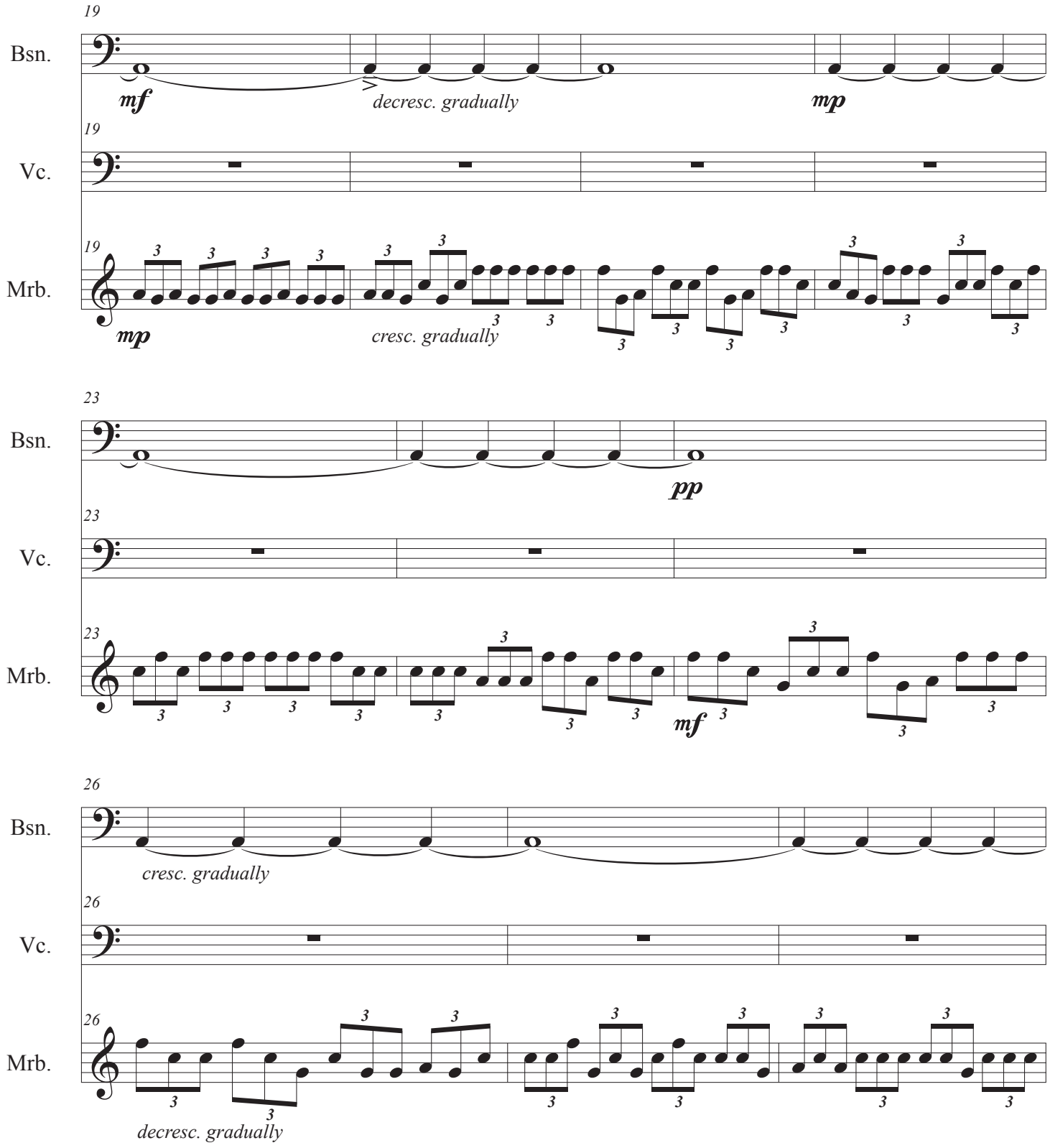
3. Histone Tails

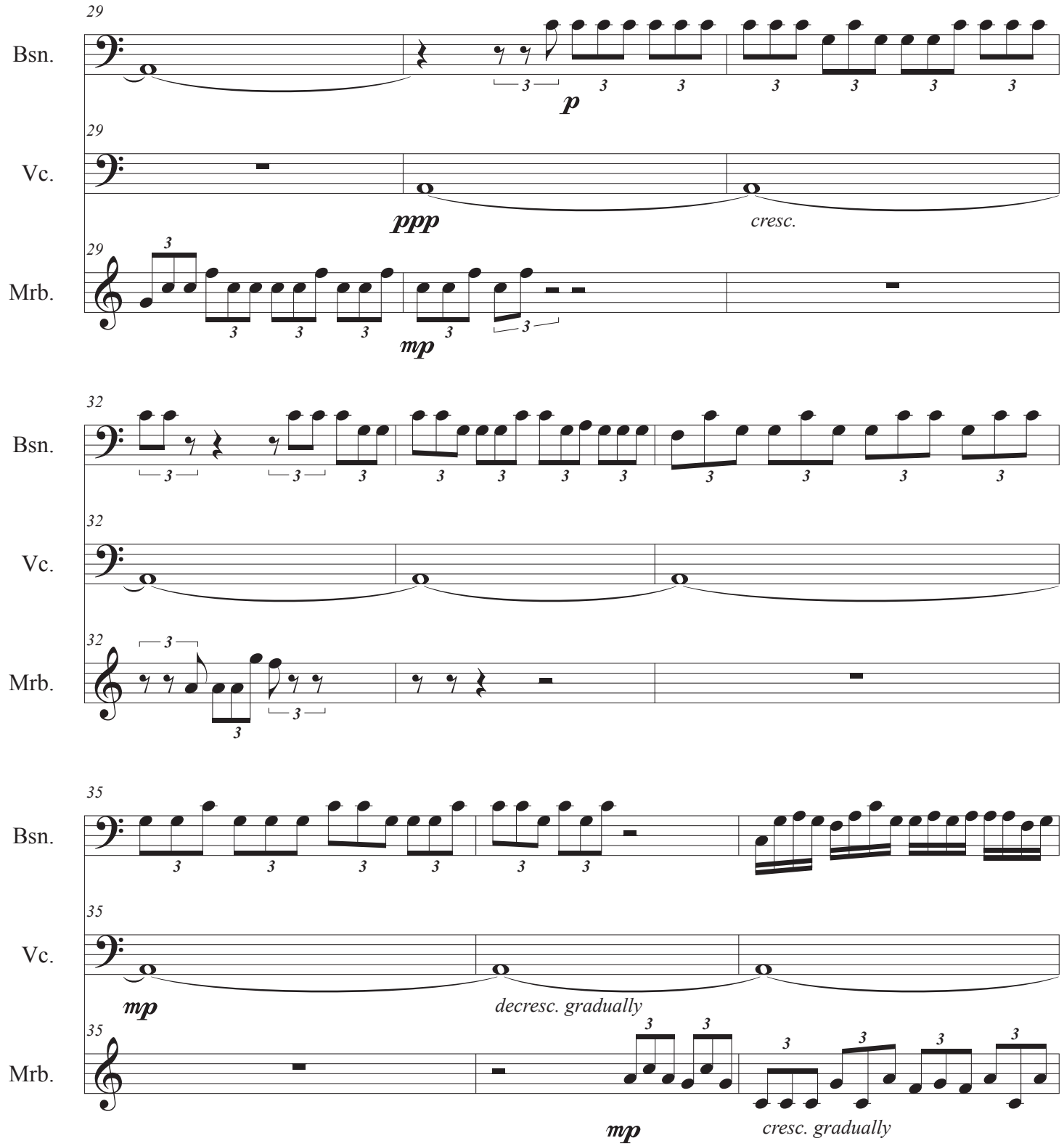
Paul Walde

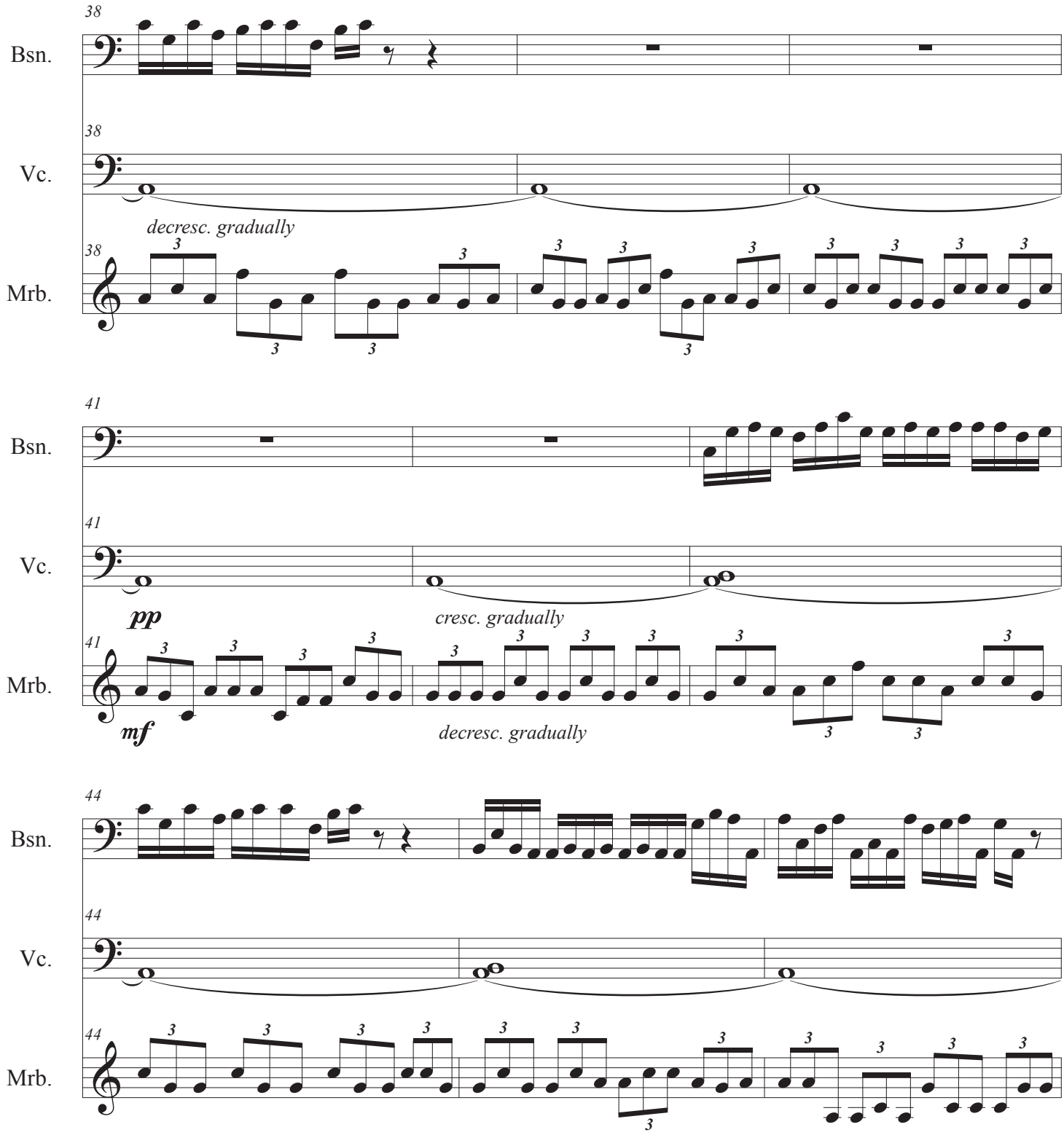


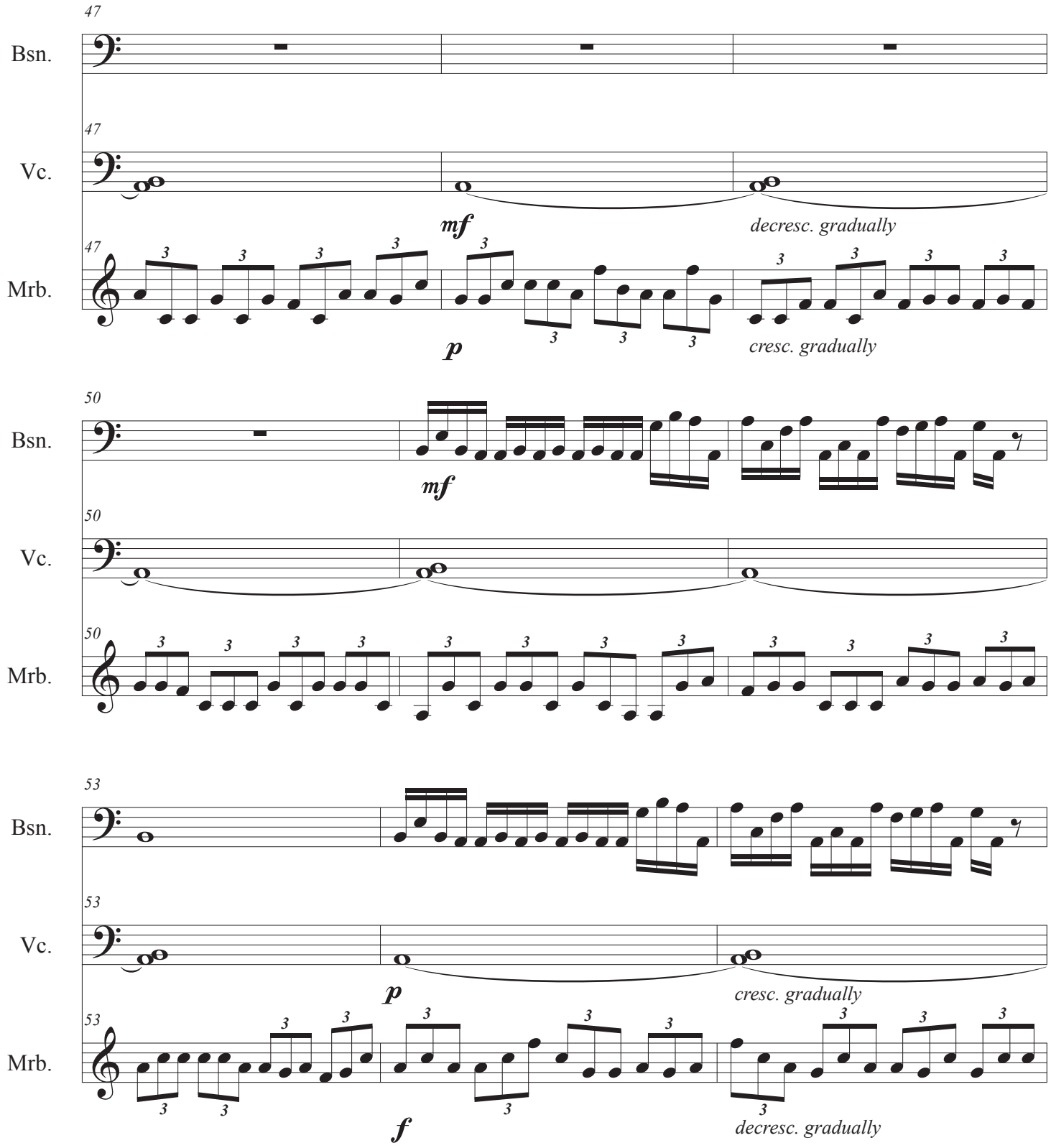
©2011

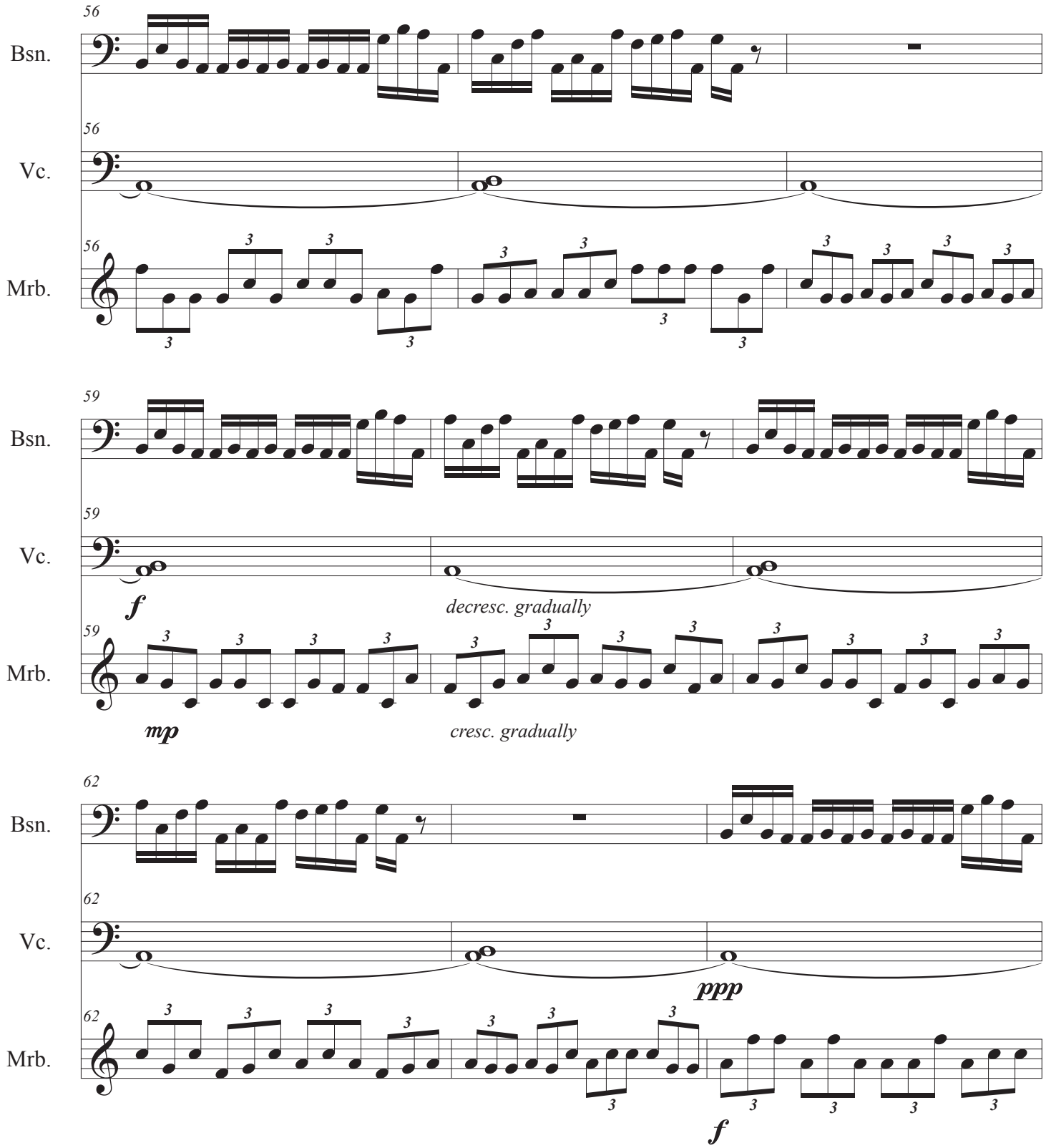

10
Bsn.
p
10
Vc.
10
Mrb.
mf
13
Bsn.
p
cresc. gradually
13
Vc.
13
Mrb.
mf
decresc. gradually
16
Bsn.
16
Vc.
16
Mrb.

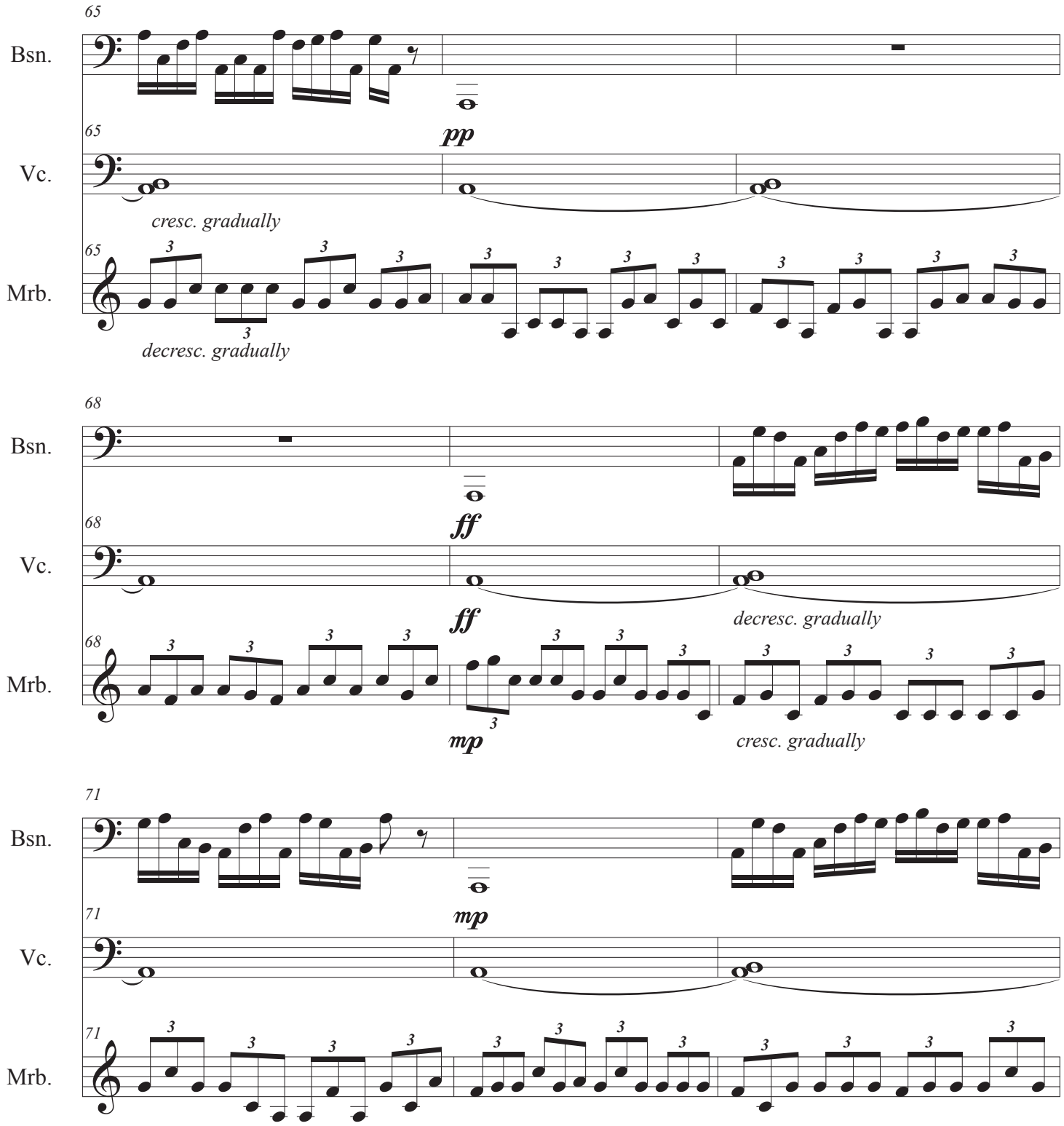

19
Bsn.
mf
decresc. gradually
mp
19
Vc.
19
Mrb.
mp
cresc. gradually
23
Bsn.
pp
23
Vc.
23
Mrb.
mf
26
Bsn.
cresc. gradually
26
Vc.
26
Mrb.
decresc. gradually

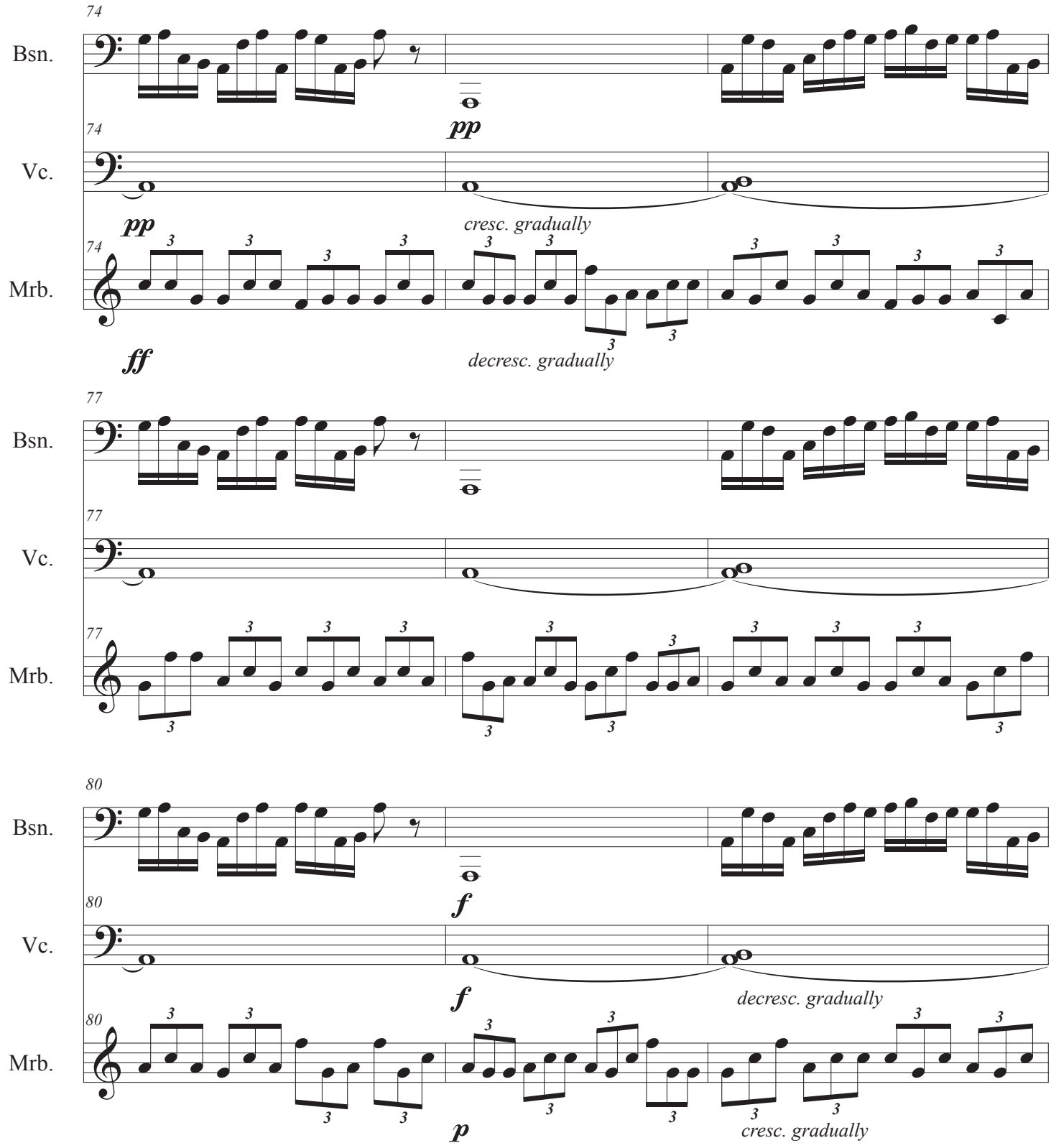

29
Bsn.
p
29
Vc.
ppp
cresc.
29
Mrb.
mp
32
Bsn.
32
Vc.
32
Mrb.
35
Bsn.
35
Vc.
mp
decresc. gradually
35
Mrb.
mp
cresc. gradually

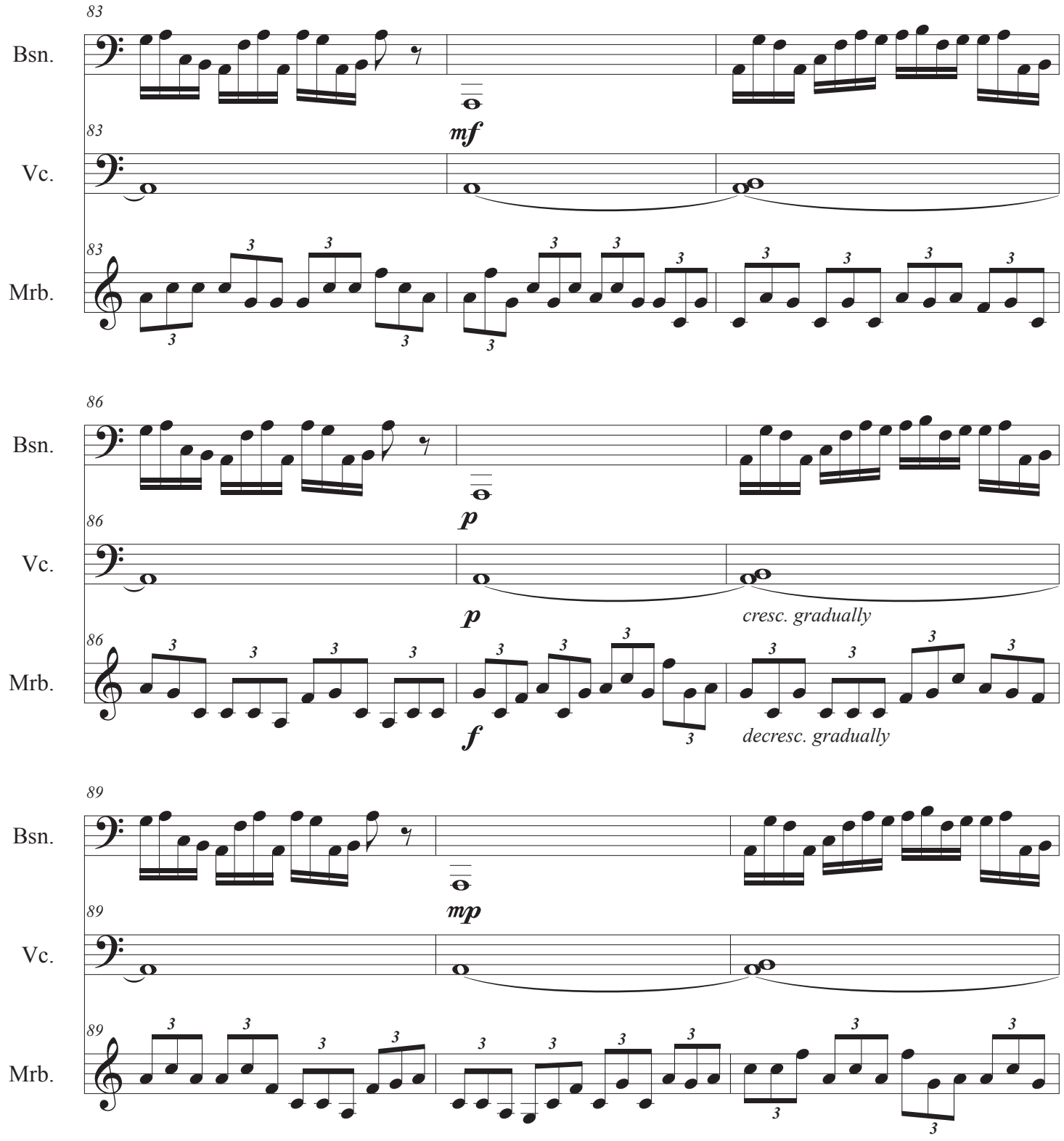

38
Bsn.
38
Vc.
decresc. gradually
38
Mrb.
41
Bsn.
41
Vc.
pp
cresc. gradually
41
Mrb.
mf
decresc. gradually
44
Bsn.
44
Vc.
44
Mrb.

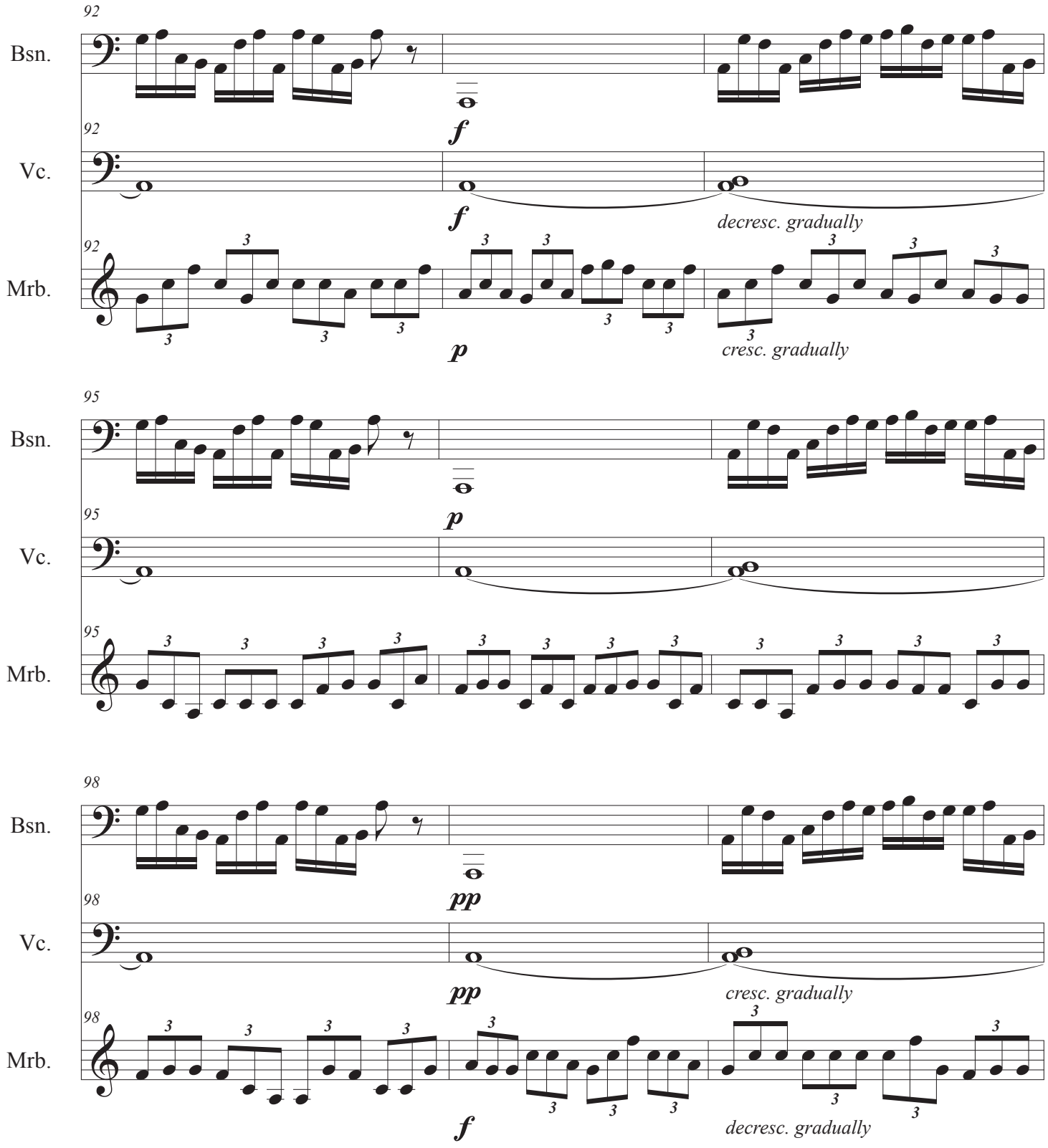

47
Bsn.
47
Vc.
mf
decresc. gradually
47
Mrb.
p
cresc. gradually
50
Bsn.
mf
50
Vc.
50
Mrb.
53
Bsn.
53
Vc.
p
cresc. gradually
53
Mrb.
f
decresc. gradually

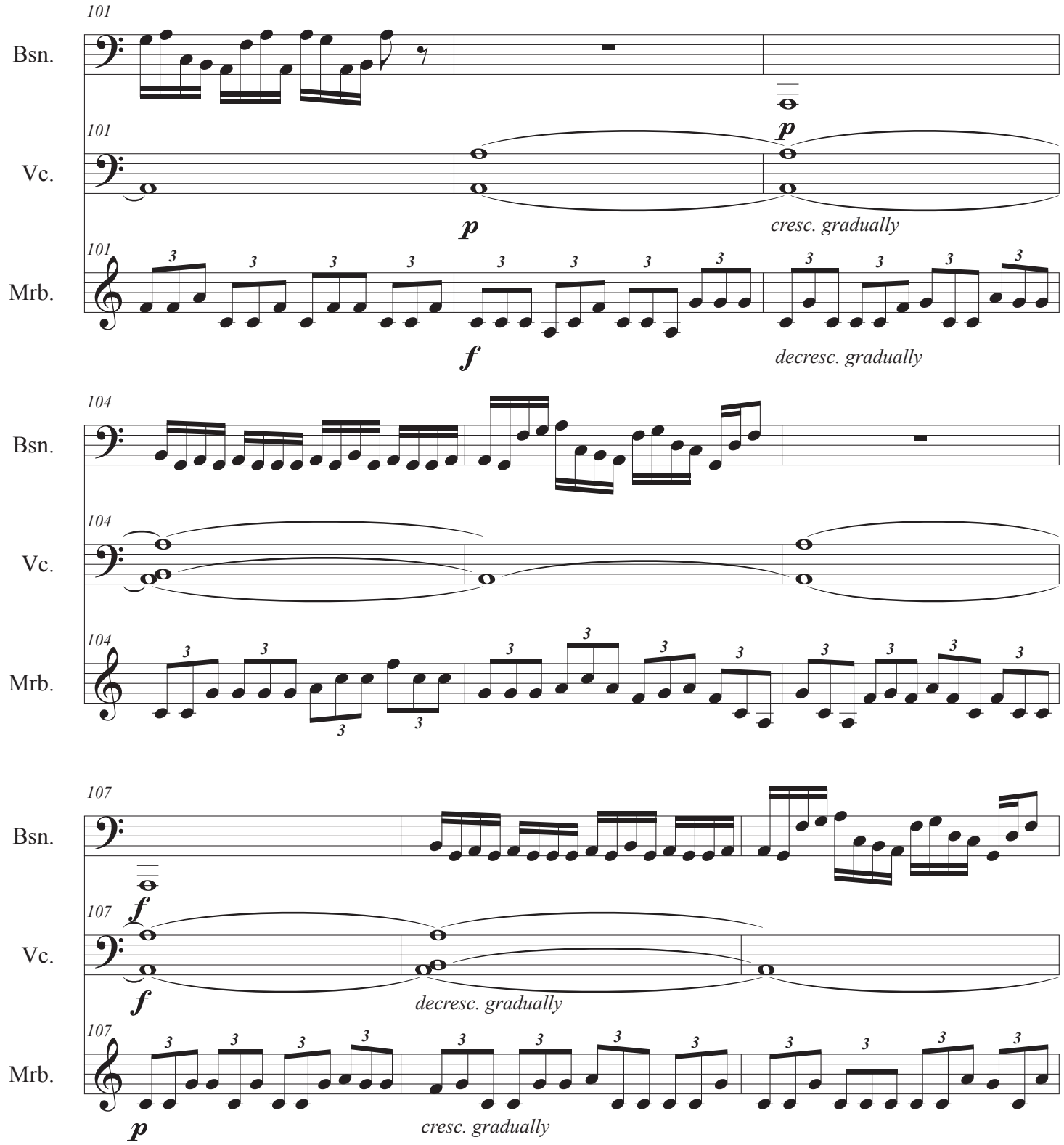

56
Bsn.
56
Vc.
56
Mrb.
59
Bsn.
59
Vc.
f
decresc. gradually
59
Mrb.
mp
cresc. gradually
62
Bsn.
62
Vc.
ppp
62
Mrb.
f

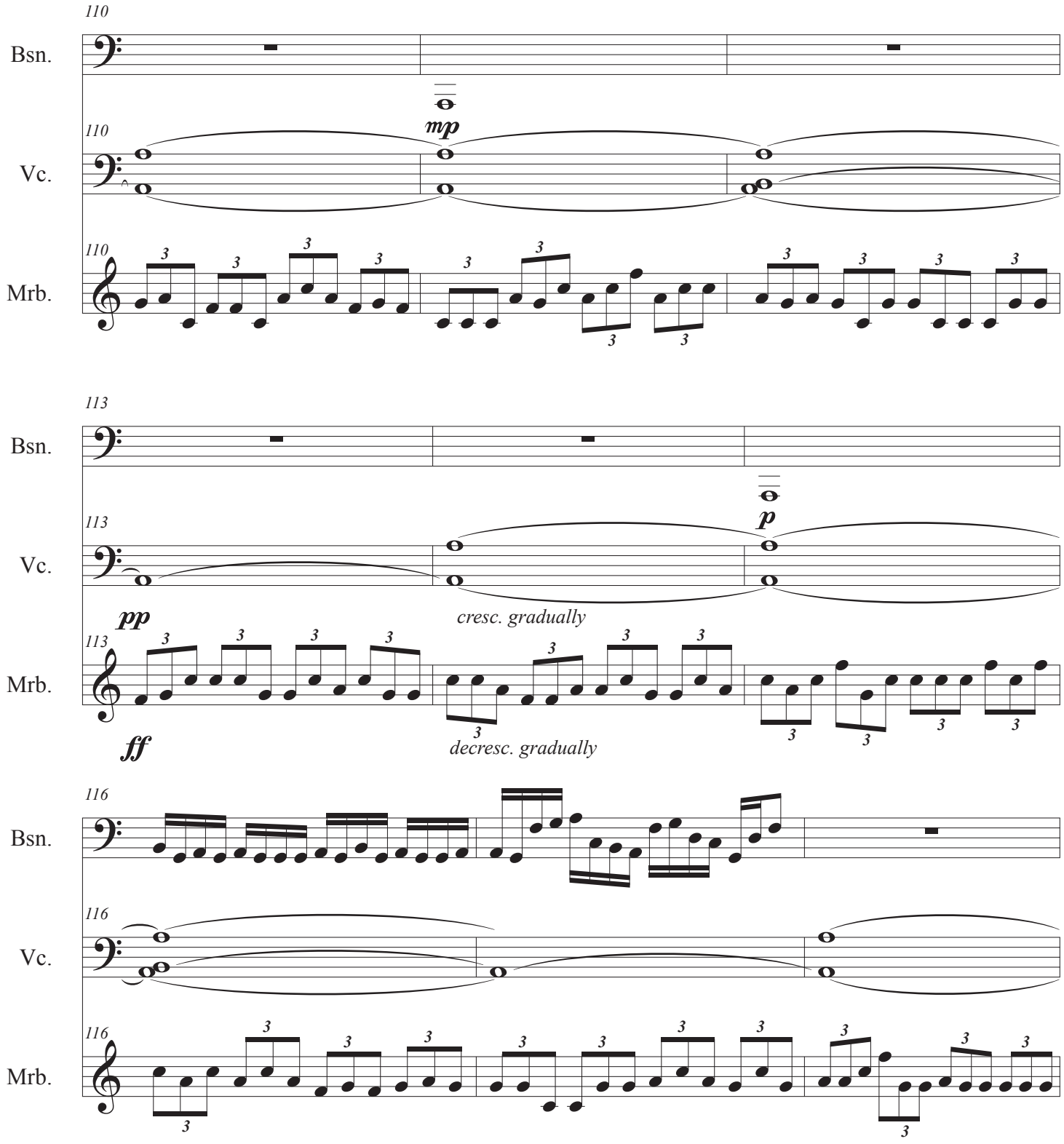

65
Bsn.
65
pp
Vc.
cresc. gradually
65
Mrb.
decresc. gradually
68
Bsn.
68
ff
Vc.
ff
decresc. gradually
68
Mrb.
mp
cresc. gradually
71
Bsn.
71
mp
Vc.
71
Mrb.

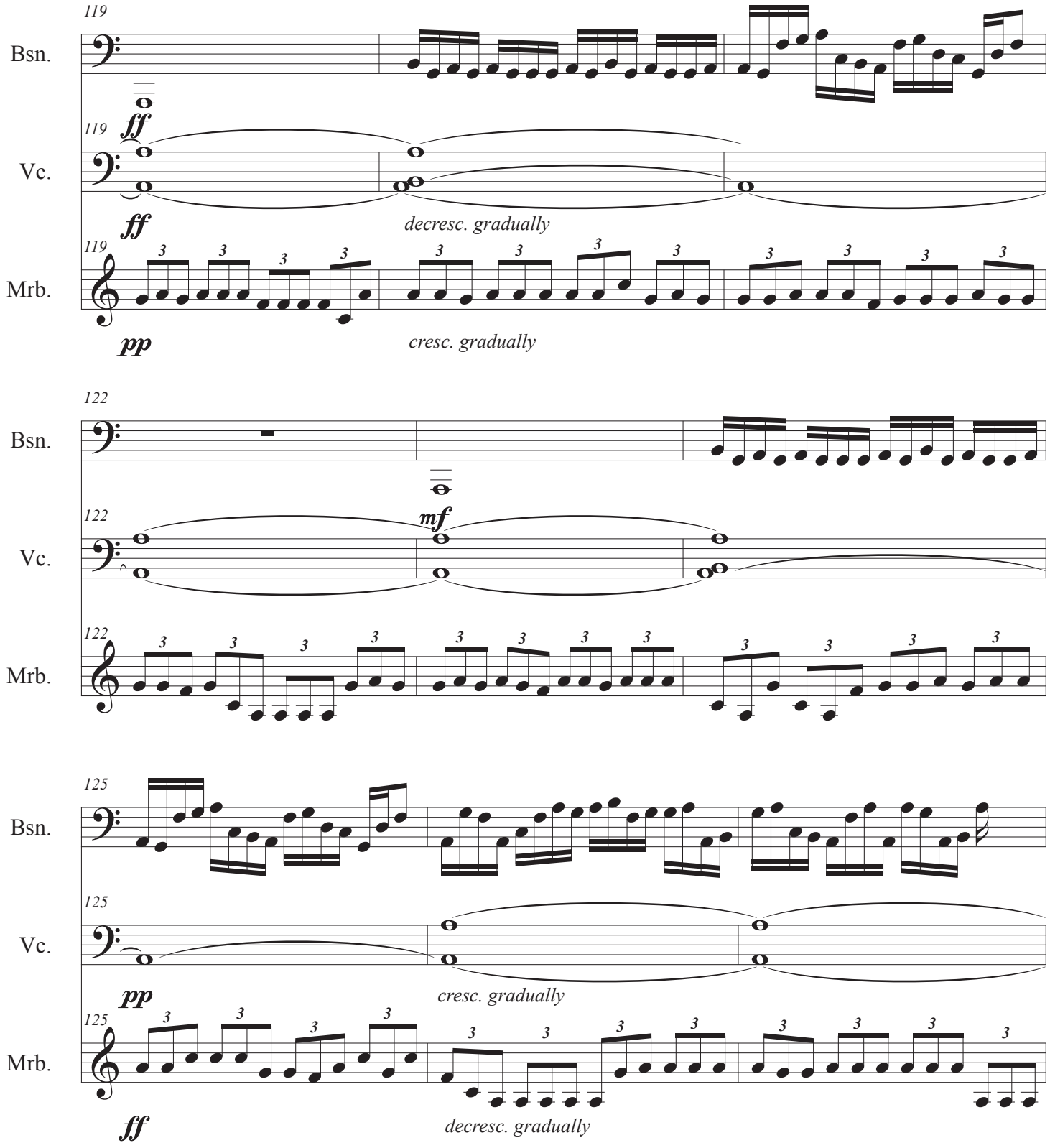

74
Bsn.
74
Vc.
pp
cresc. gradually
74
Mrb.
ff
decresc. gradually
77
Bsn.
77
Vc.
77
Mrb.
80
Bsn.
f
80
Vc.
f
decresc. gradually
80
Mrb.
p
cresc. gradually

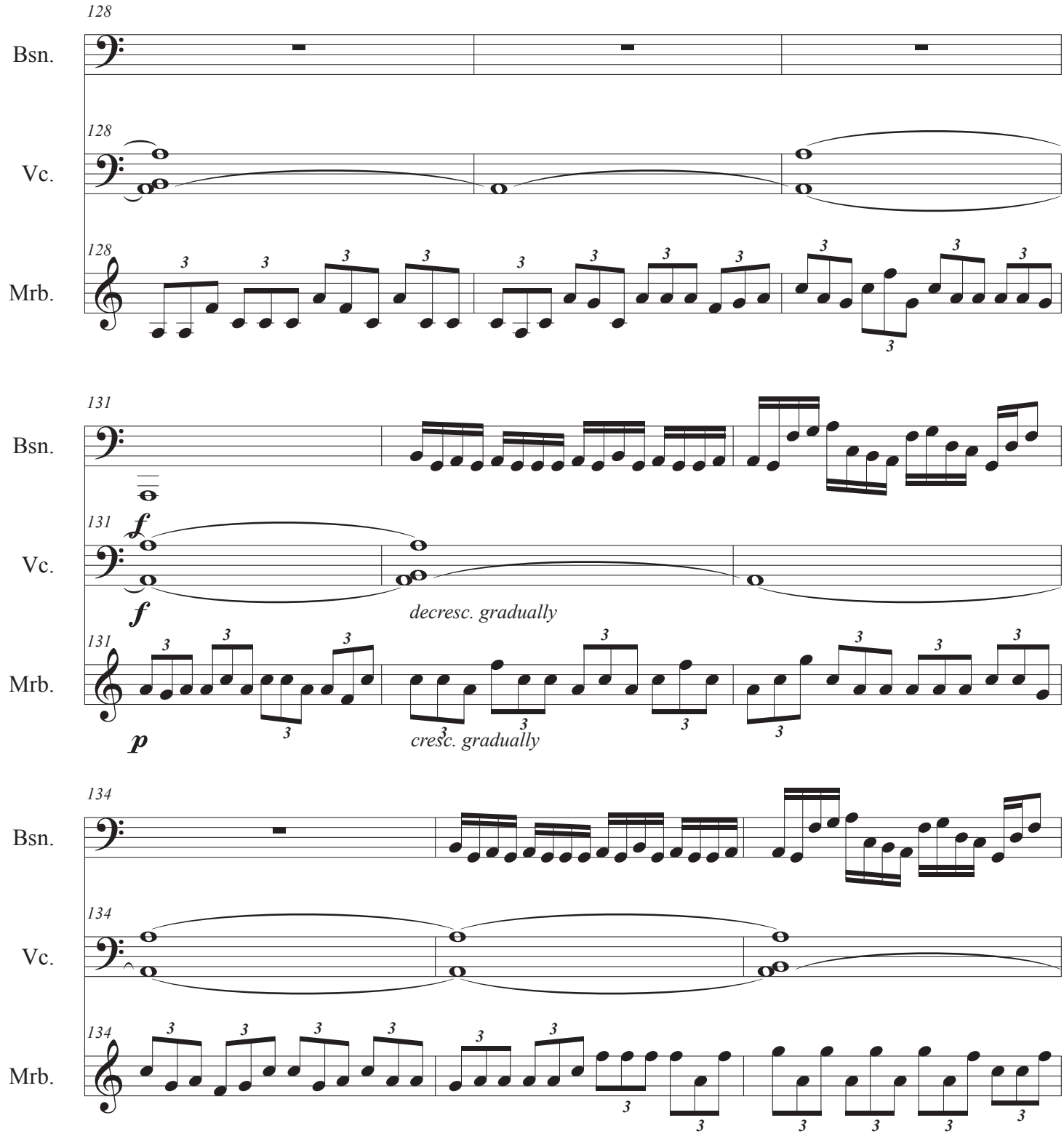

83
Bsn.
mf
83
Vc.
83
Mrb.
86
Bsn.
p
86
Vc.
p
cresc. gradually
86
Mrb.
f
decresc. gradually
89
Bsn.
mp
89
Vc.
89
Mrb.

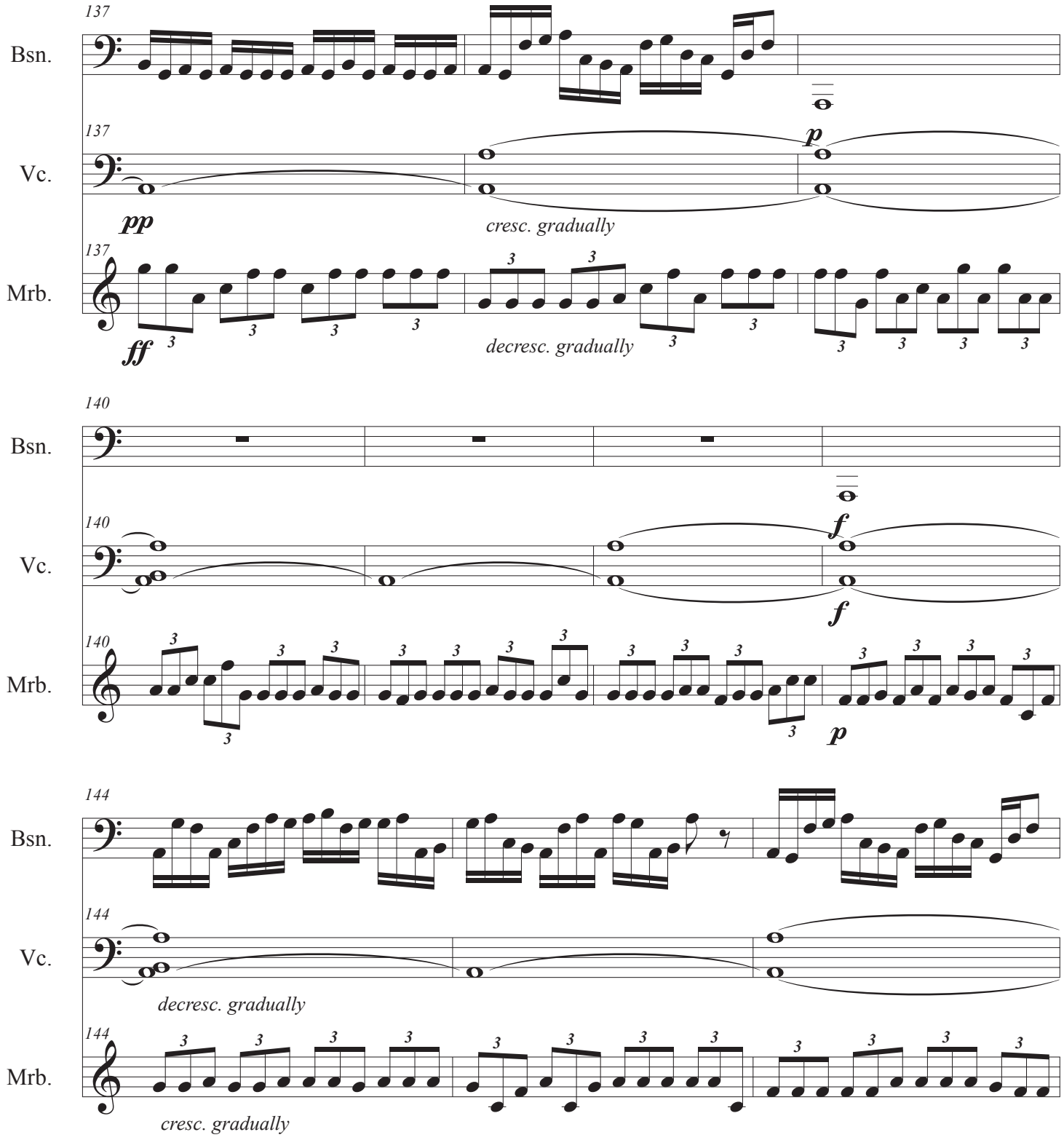

92
Bsn.
92
Vc.
92
Mrb.
f
f
p
decresc. gradually
cresc. gradually
95
Bsn.
95
Vc.
95
Mrb.
p
98
Bsn.
98
Vc.
98
Mrb.
pp
pp
f
cresc. gradually
decresc. gradually

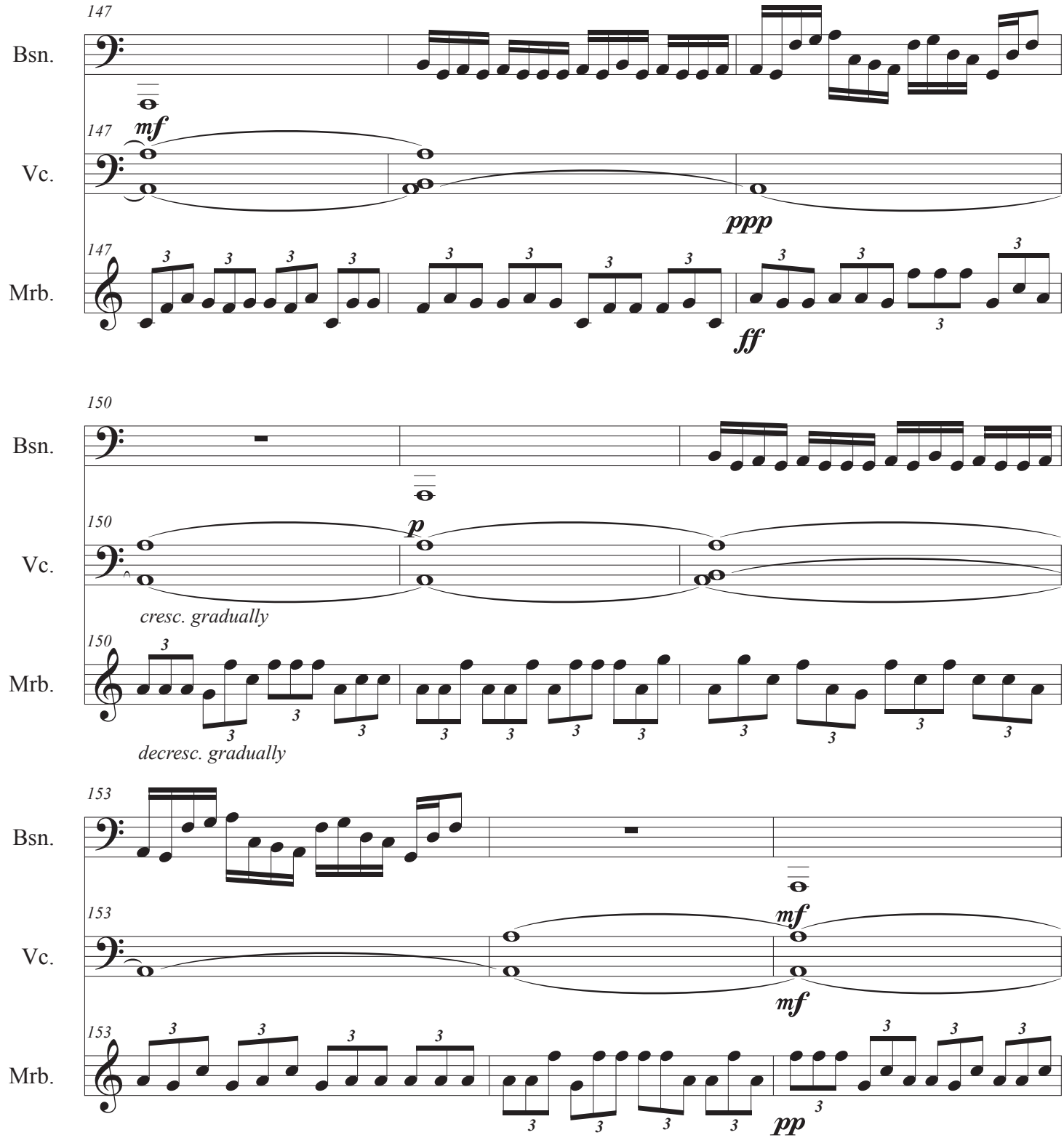

101
Bsn.
101
Vc.
p
cresc. gradually
101
Mrb.
f
decresc. gradually
104
Bsn.
104
Vc.
104
Mrb.
107
Bsn.
f
107
Vc.
f
decresc. gradually
107
Mrb.
p
cresc. gradually

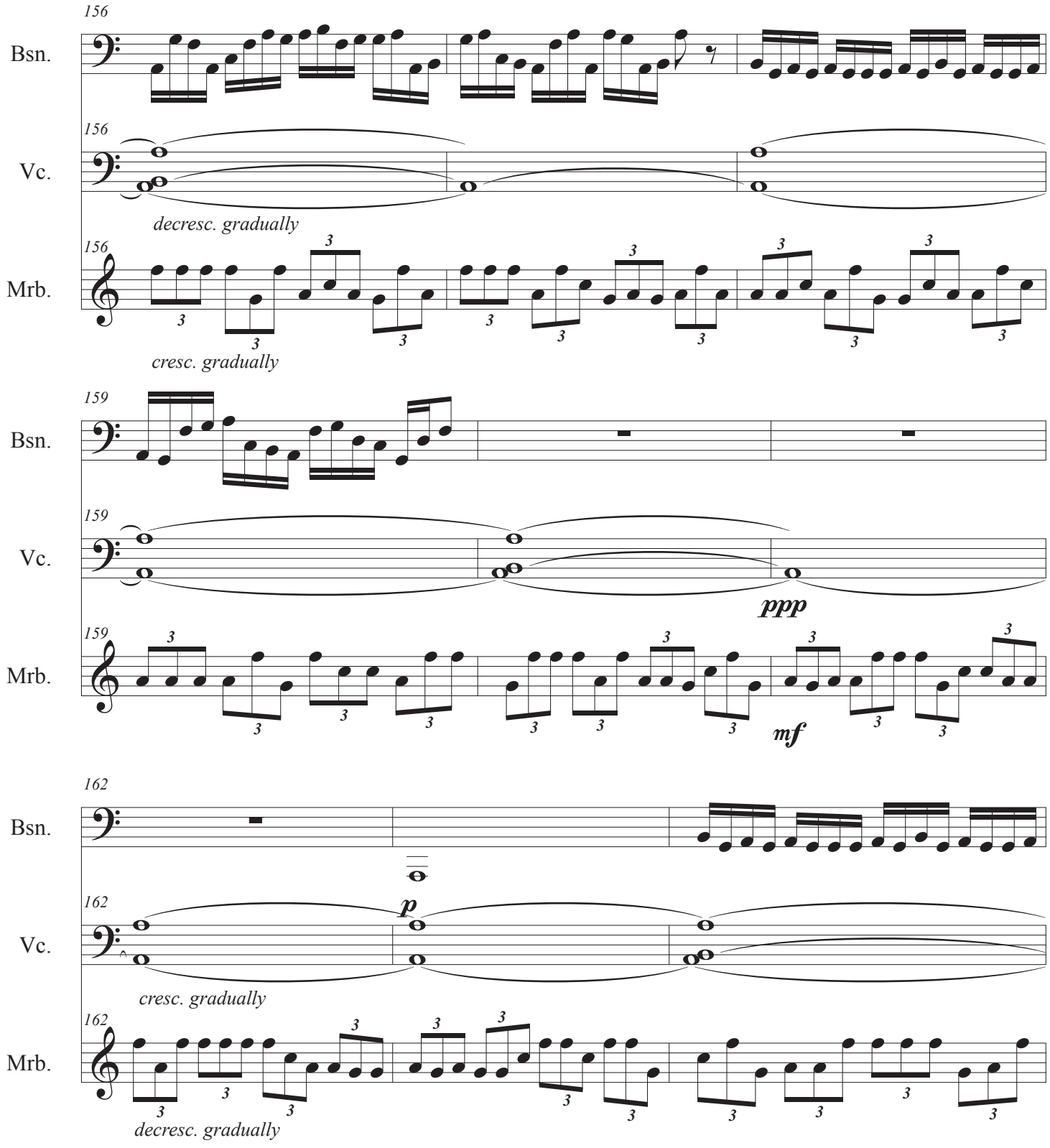

110
Bsn.
110
mp
Vc.
110
Mrb.
113
Bsn.
113
p
Vc.
pp
cresc. gradually
113
Mrb.
ff
decresc. gradually
116
Bsn.
116
Vc.
116
Mrb.


119
Bsn.
119
ff
Vc.
ff
decresc. gradually
119
Mrb.
pp
cresc. gradually
122
Bsn.
122
mf
Vc.
122
Mrb.
125
Bsn.
125
Vc.
pp
cresc. gradually
125
Mrb.
ff
decresc. gradually


128
Bsn.
128
Vc.
128
Mrb.
131
Bsn.
131
f
Vc.
f
decresc. gradually
131
Mrb.
p
cresc. gradually
134
Bsn.
134
Vc.
134
Mrb.


137
Bsn.
137
Vc.
pp
cresc. gradually
p
137
Mrb.
ff
decresc. gradually
140
Bsn.
140
Vc.
f
f
140
Mrb.
p
144
Bsn.
144
Vc.
decresc. gradually
144
Mrb.
cresc. gradually


147
Bsn.
147
mf
Vc.
ppp
147
Mrb.
ff
150
Bsn.
150
p
Vc.
cresc. gradually
150
Mrb.
decresc. gradually
153
Bsn.
153
mf
Vc.
mf
153
Mrb.
pp


156
Bsn.
156
Vc.
decresc. gradually
156
Mrb.
cresc. gradually
159
Bsn.
159
Vc.
ppp
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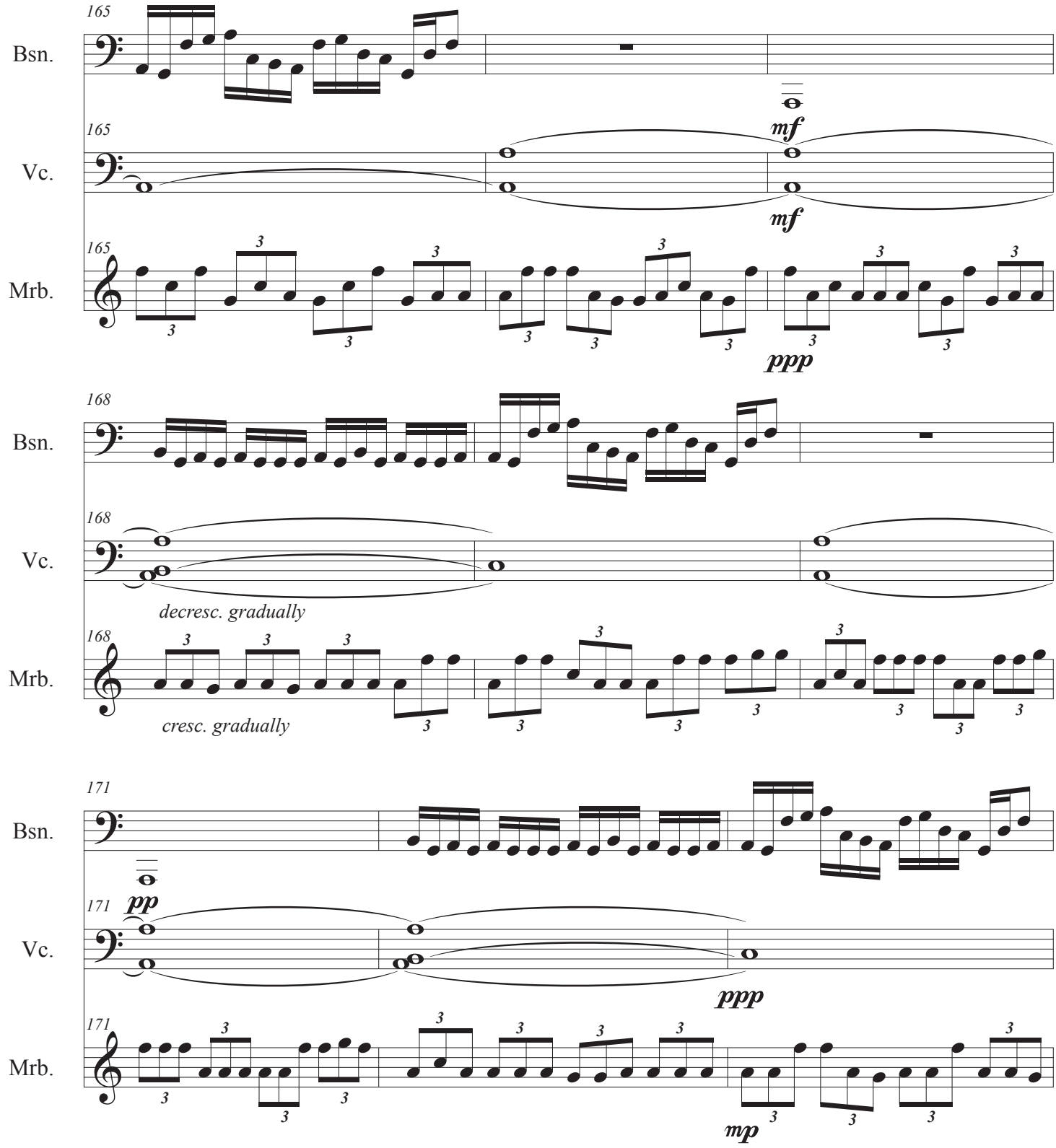
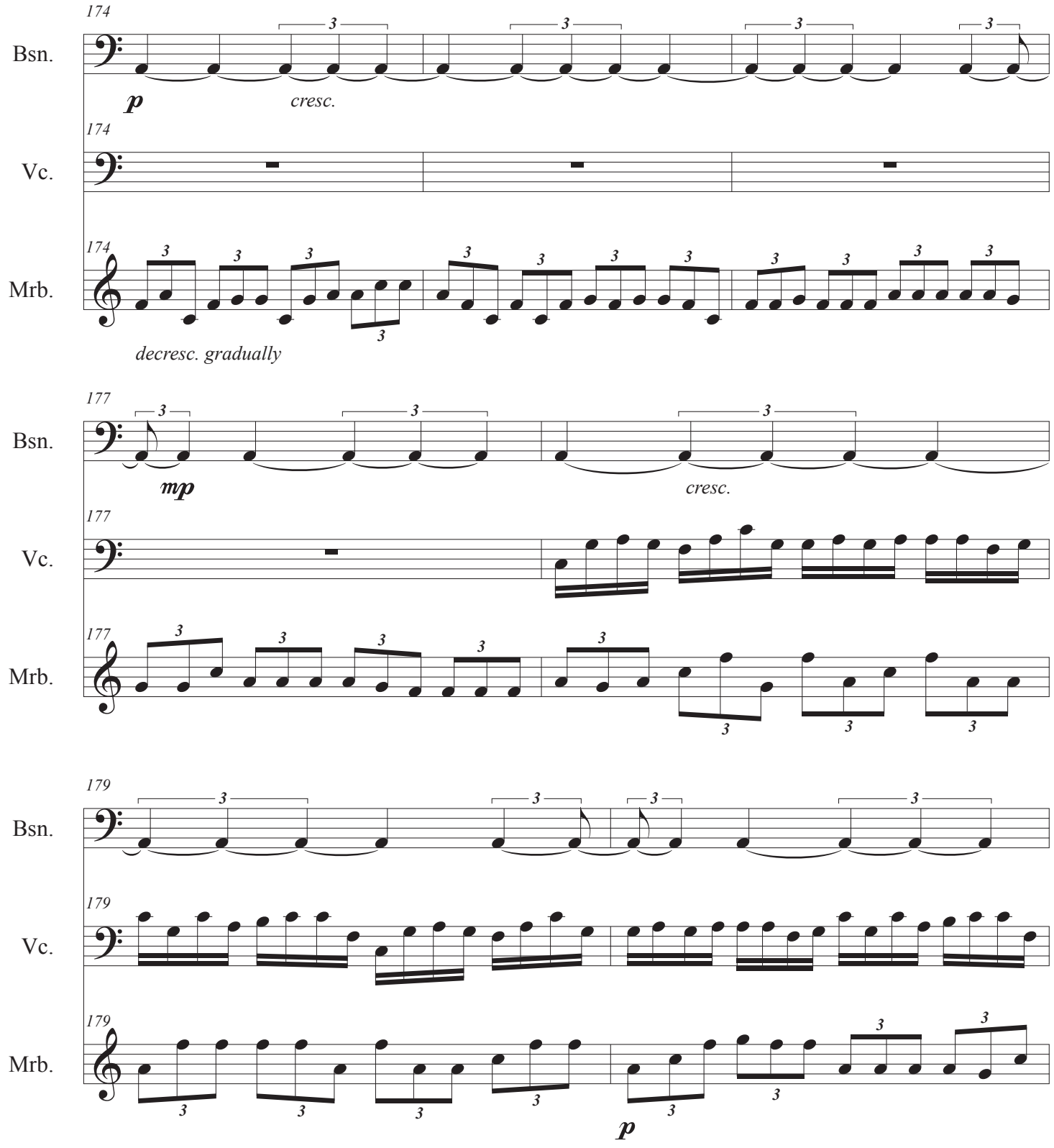
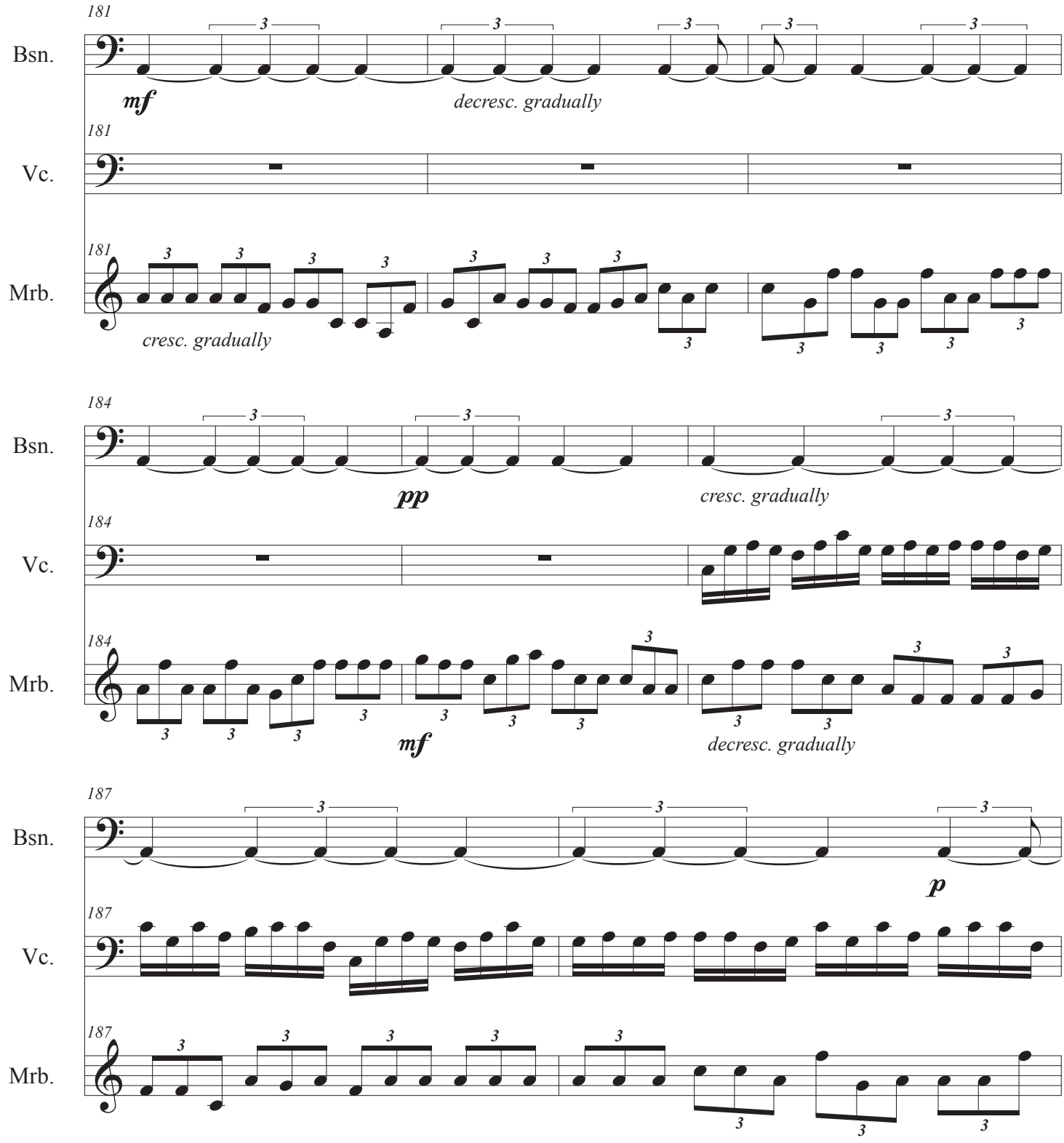
Mrb.
mf
162
Bsn.
p
162
Vc.
cresc. gradually
162
Mrb.
decresc. gradually


165
Bsn.
165
Vc.
mf
mf
165
Mrb.
ppp
168
Bsn.
168
Vc.
decresc. gradually
168
Mrb.
cresc. gradually
171
Bsn.
pp
171
Vc.
ppp
171
Mrb.
mp


174
Bsn.
p
cresc.
174
Vc.
174
Mrb.
decresc. gradually
177
Bsn.
mp
cresc.
177
Vc.
177
Mrb.
179
Bsn.
179
Vc.
179
Mrb.
p


181
Bsn.
mf
decresc. gradually
181
Vc.
181
Mrb.
cresc. gradually
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Bsn.
pp
cresc. gradually
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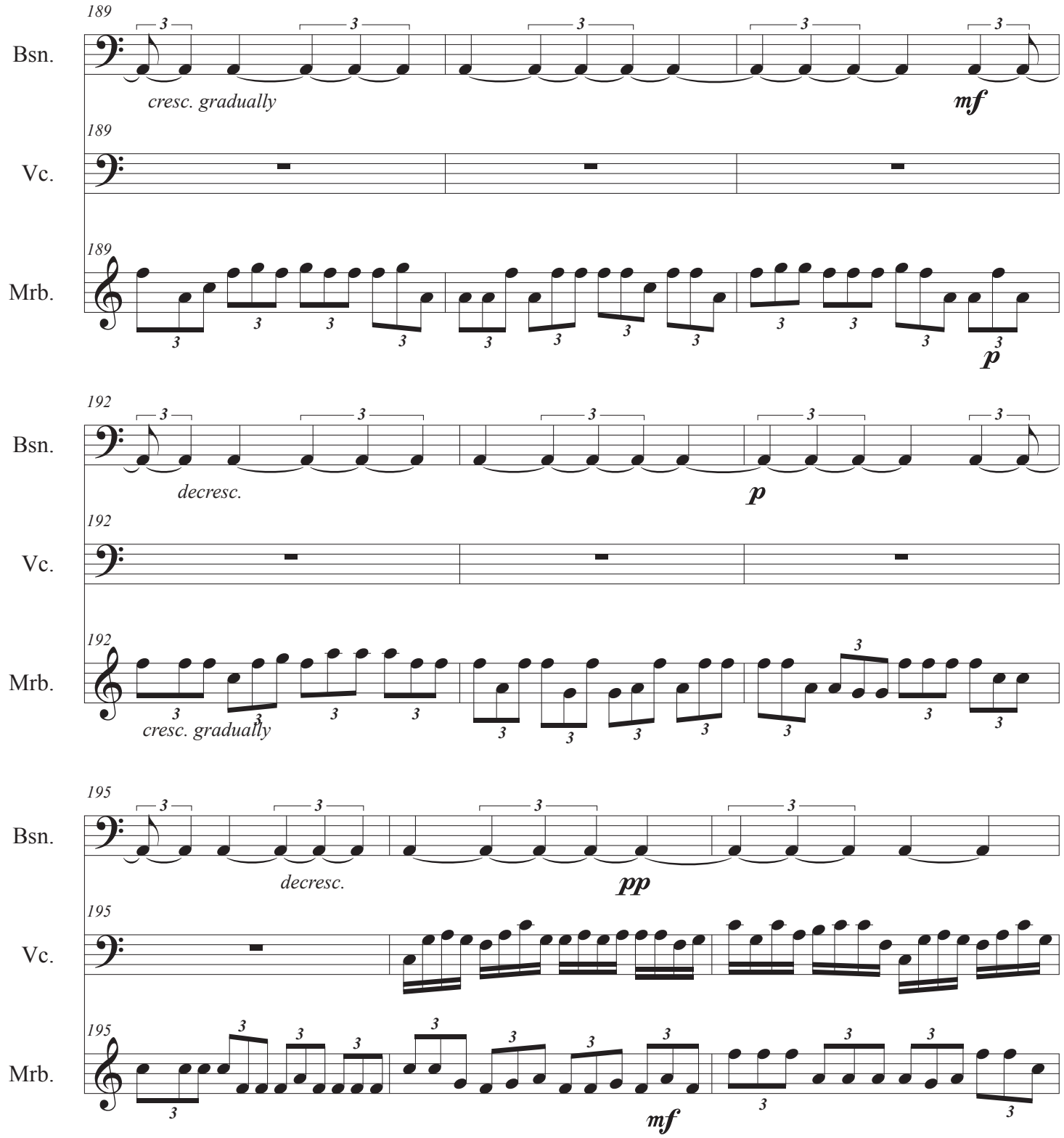
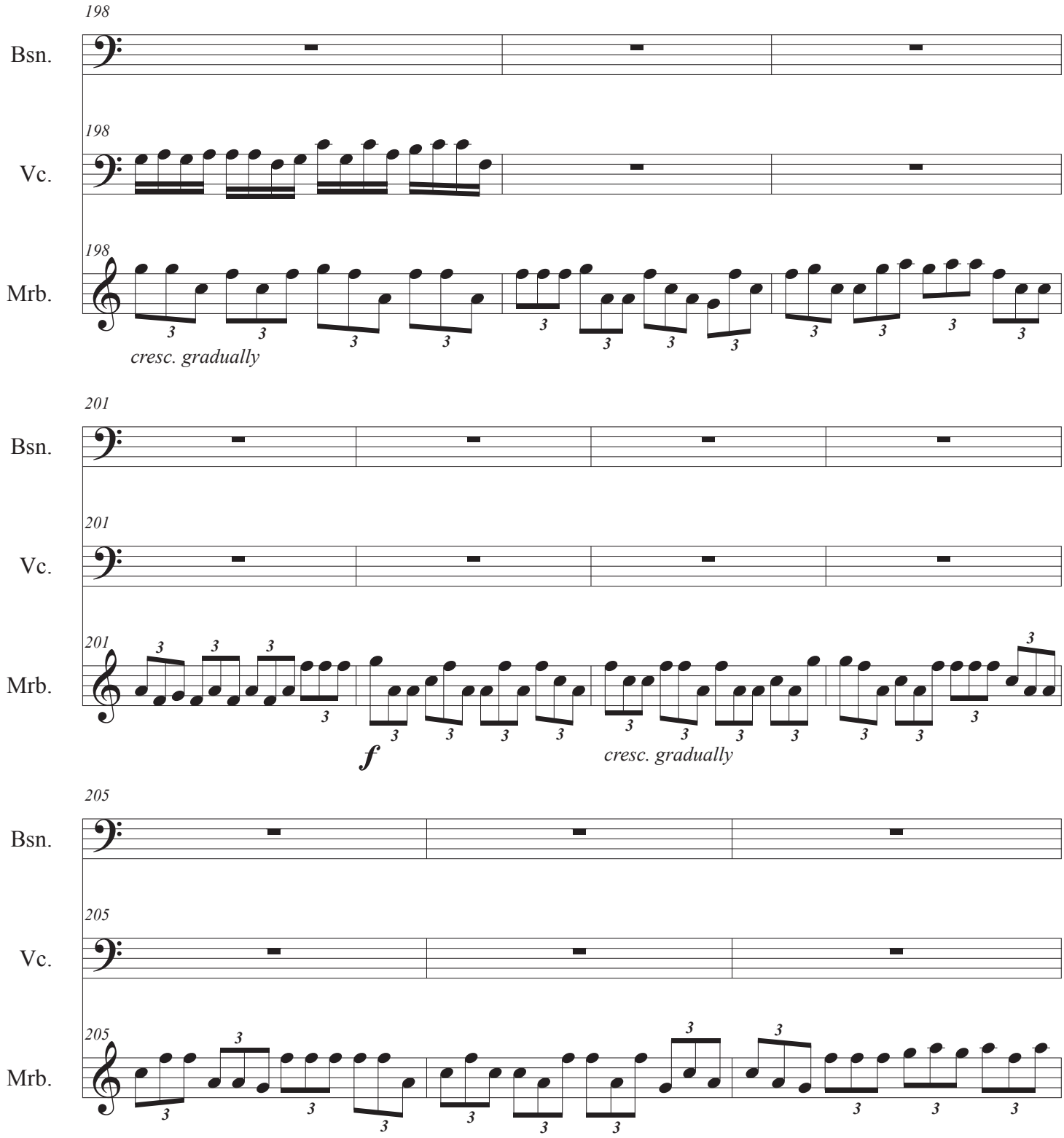
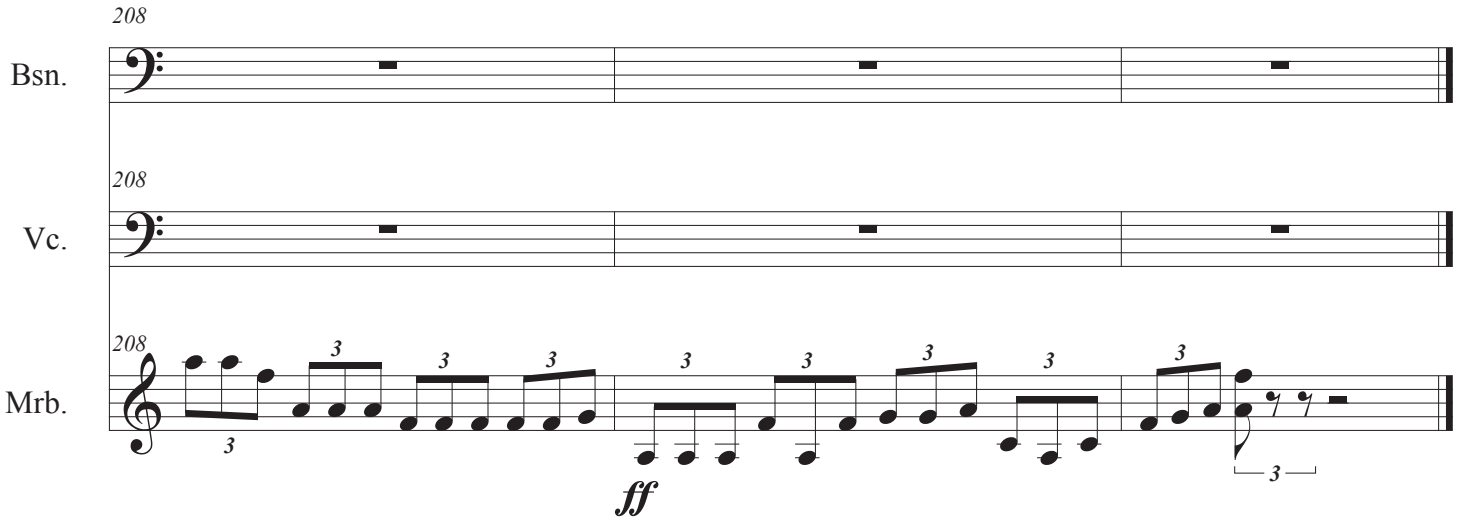
Vc.
184
Mrb.
mf
decresc. gradually
187
Bsn.
p
187
Vc.
187
Mrb.


189
Bsn.
cresc. gradually
mf
189
Vc.
189
Mrb.
p
192
Bsn.
decresc.
p
192
Vc.
192
Mrb.
cresc. gradually
195
Bsn.
decresc.
pp
195
Vc.
195
Mrb.
mf


198
Bsn.
198
Vc.
198
Mrb.
cresc. gradually
201
Bsn.
201
Vc.
201
Mrb.
f
cresc. gradually
205
Bsn.
205
Vc.
205
Mrb.

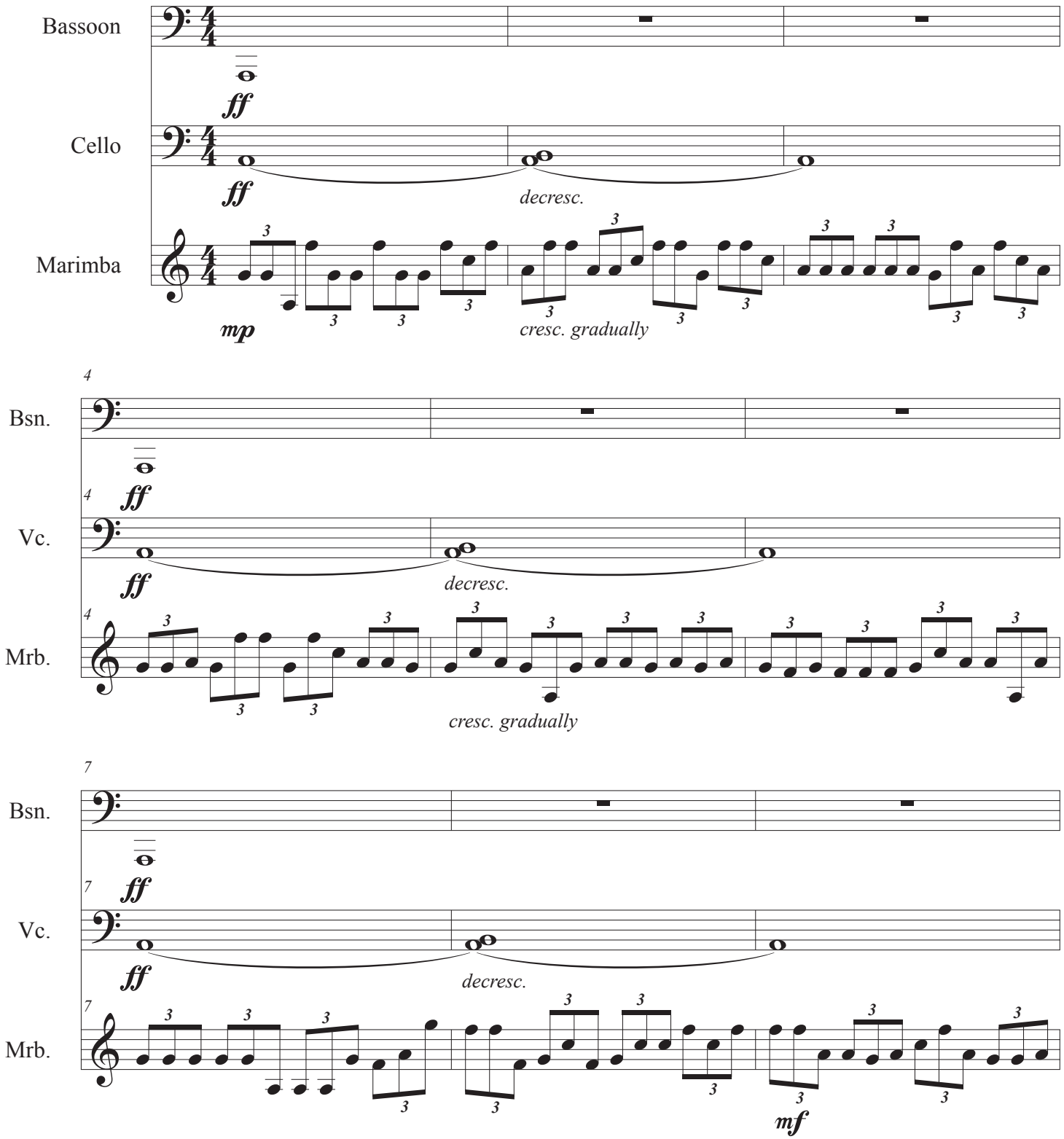

208
Bsn.
208
Vc.
208
Mrb.
3
3
3
3
3
3
3
3
3
3
3
ff

Score

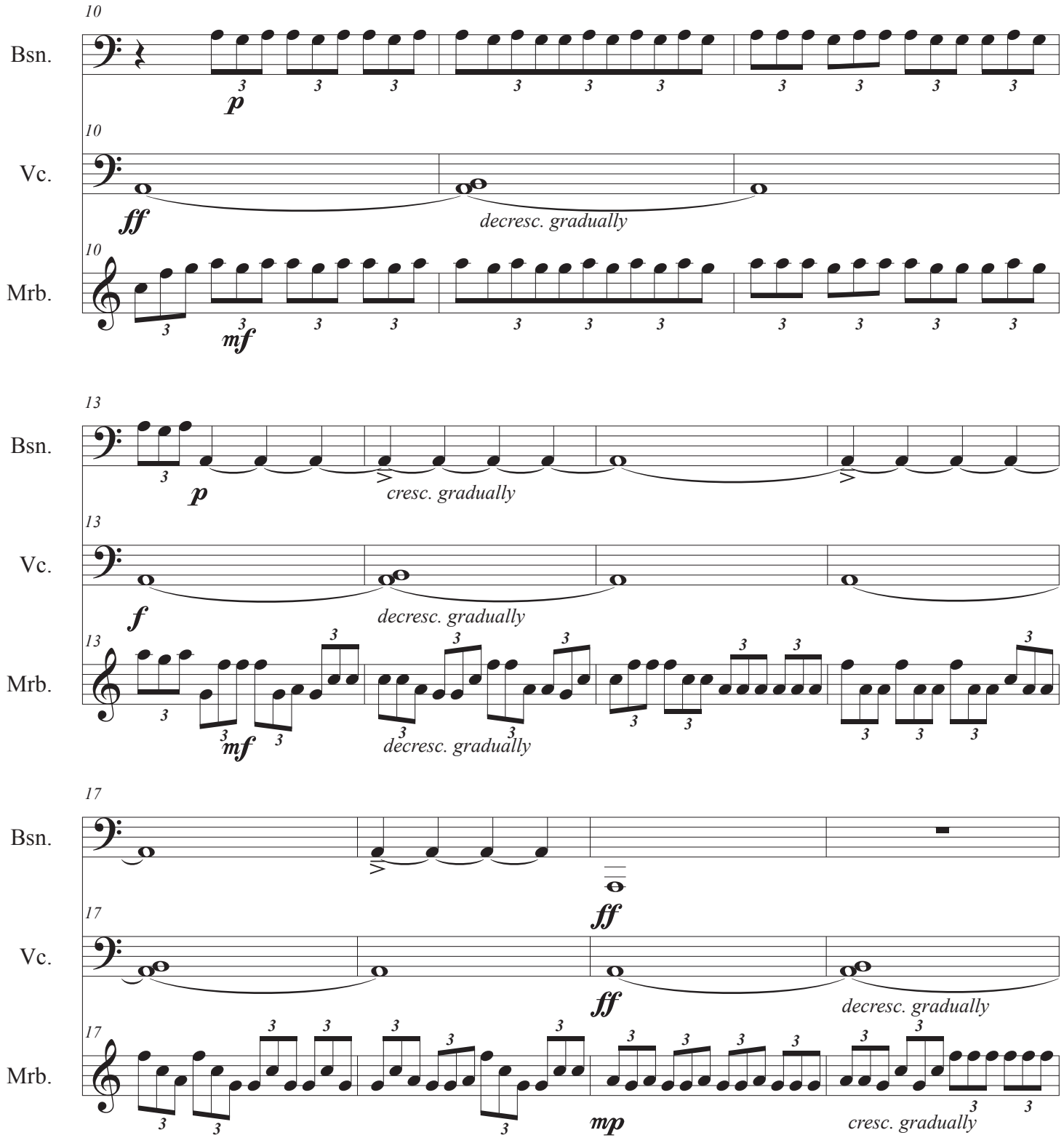
Epigenetic Switches

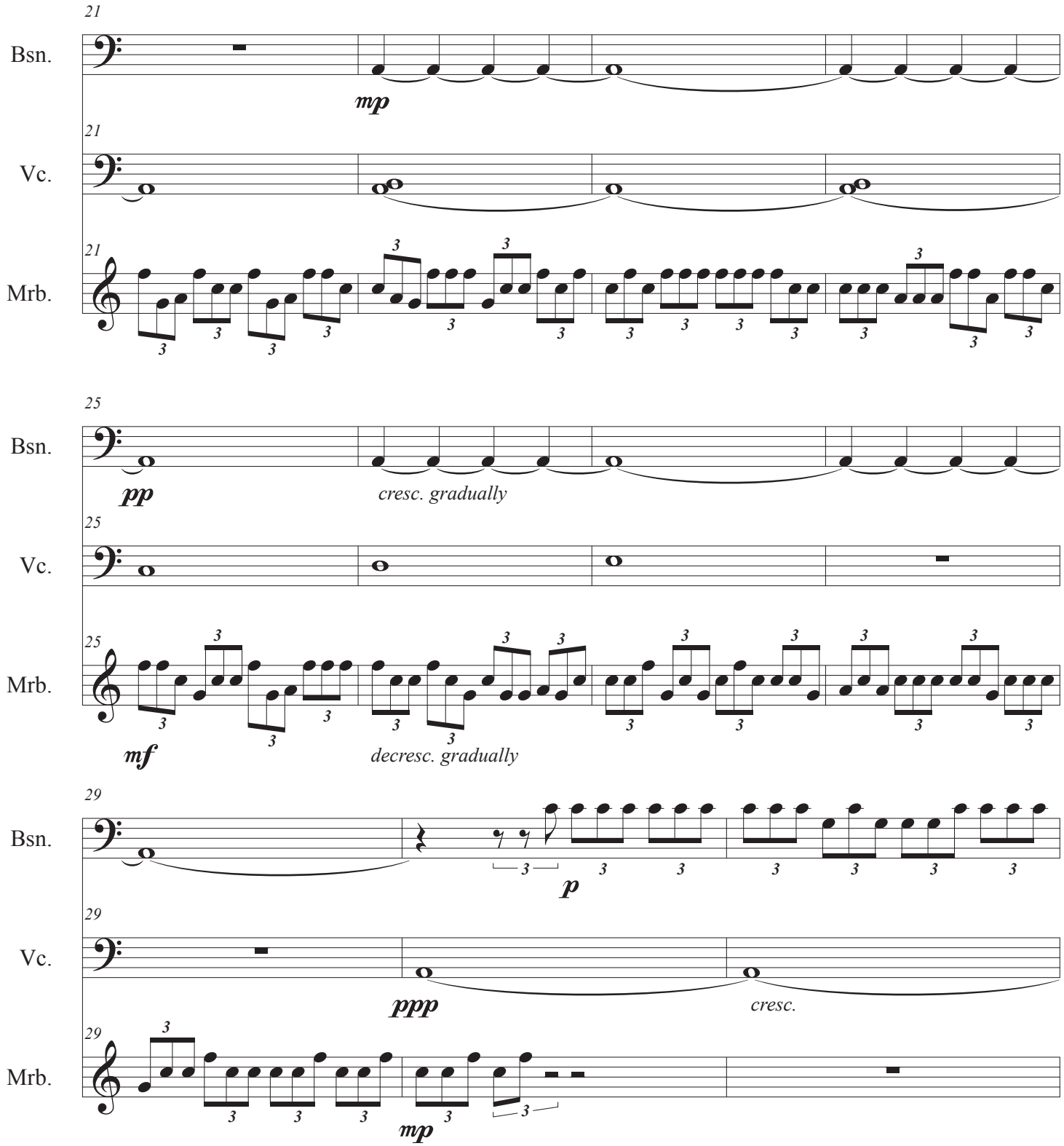
4. Chromatin Remodeling

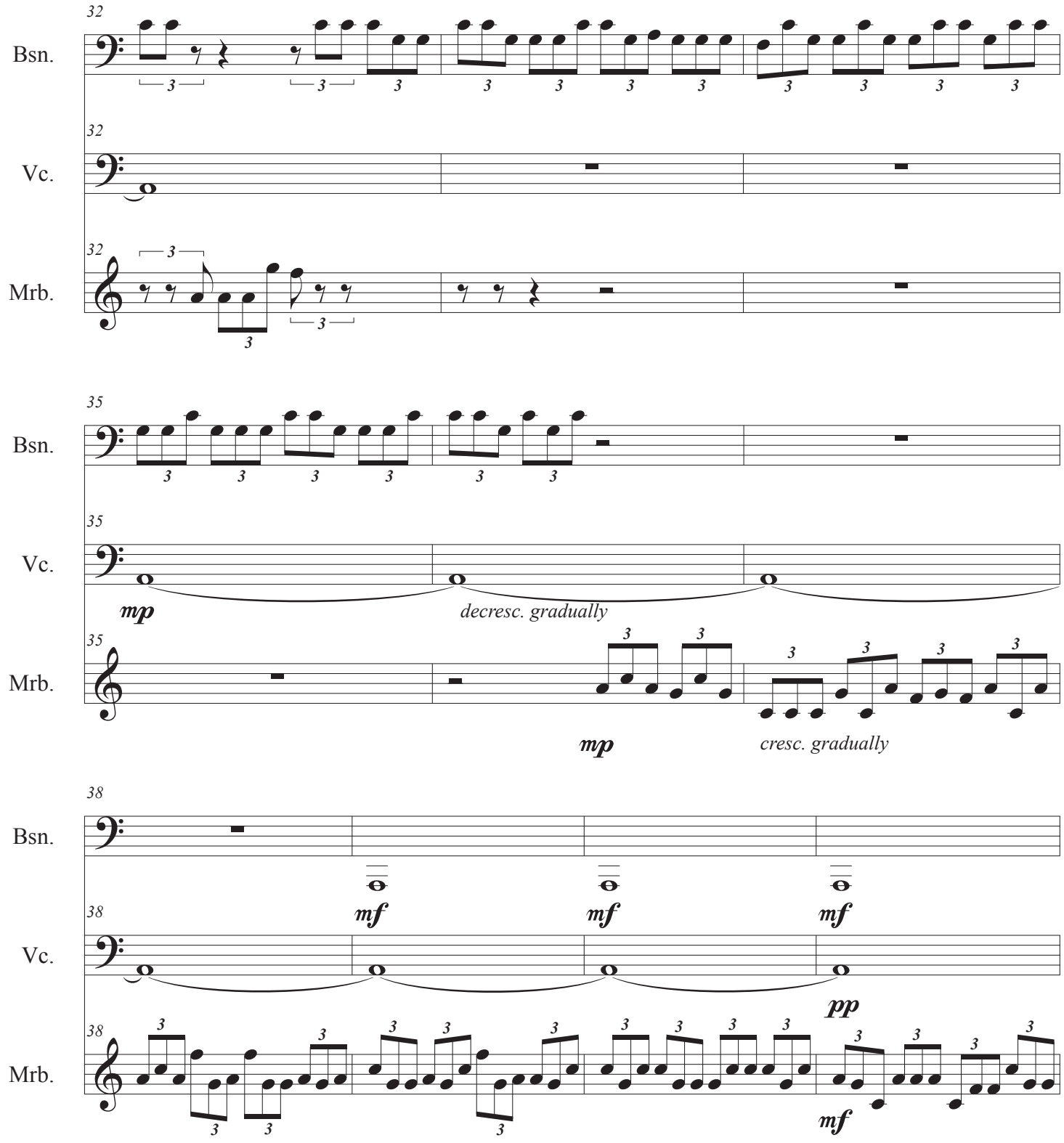
Paul Walde

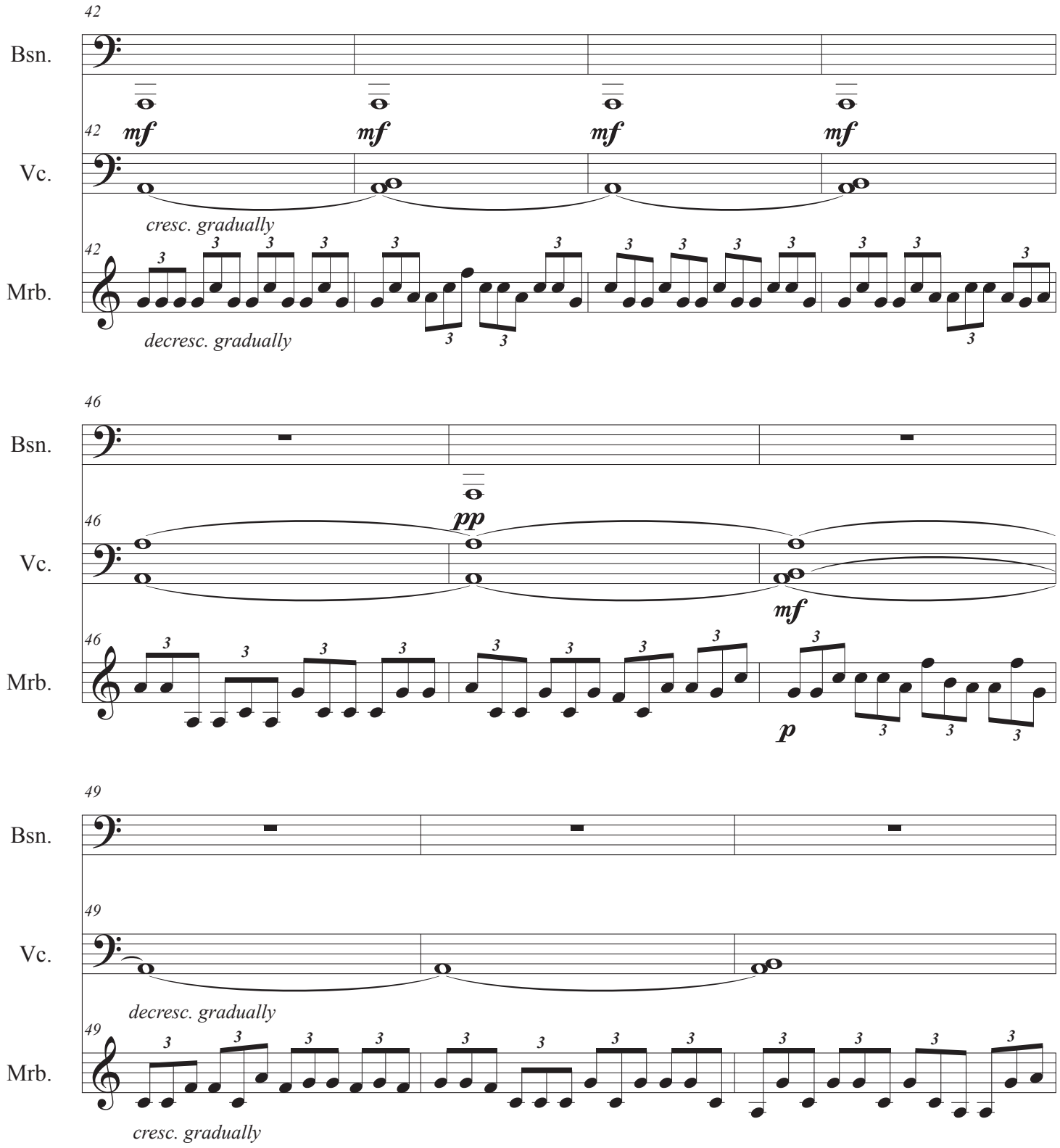


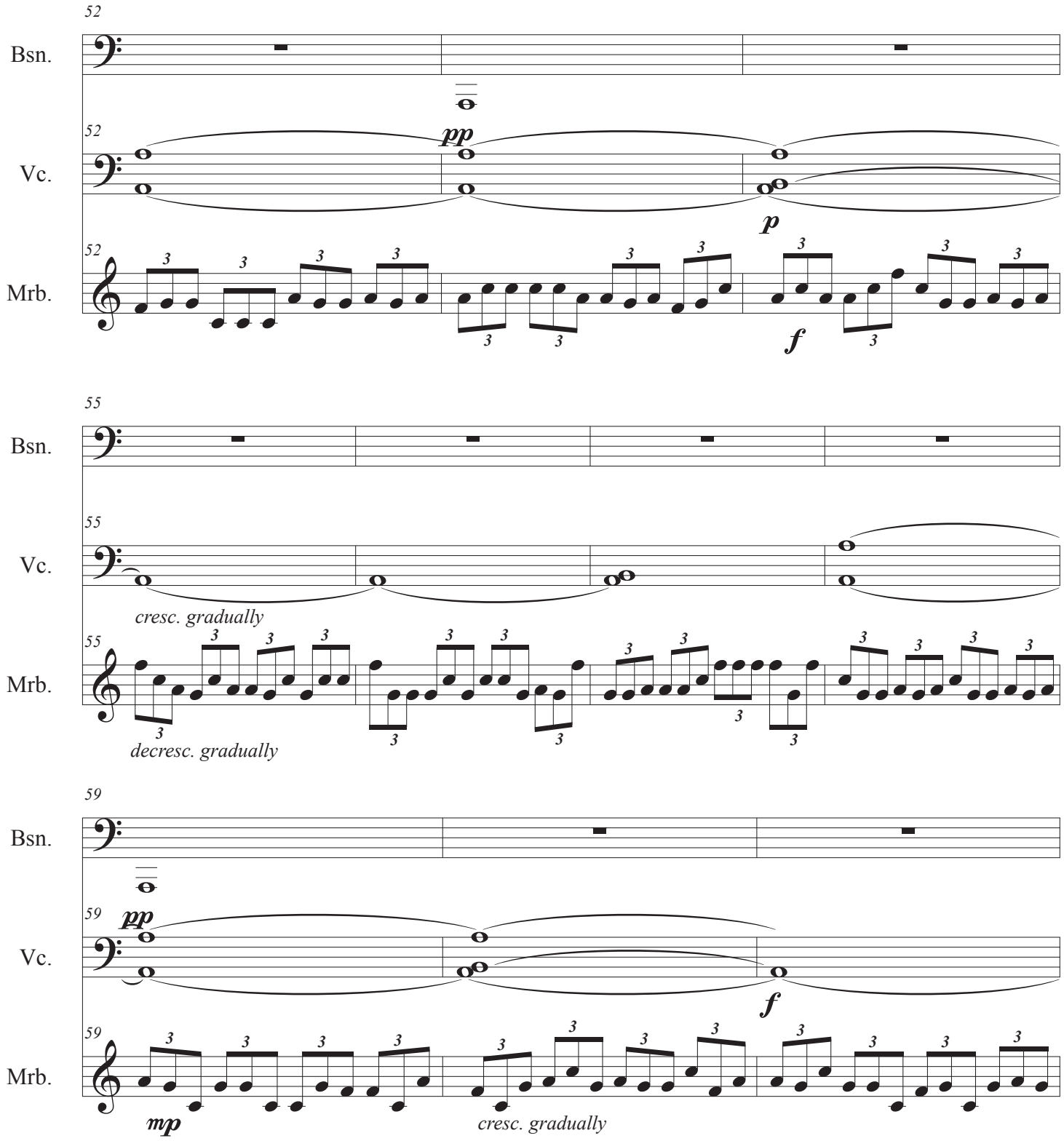
©2011

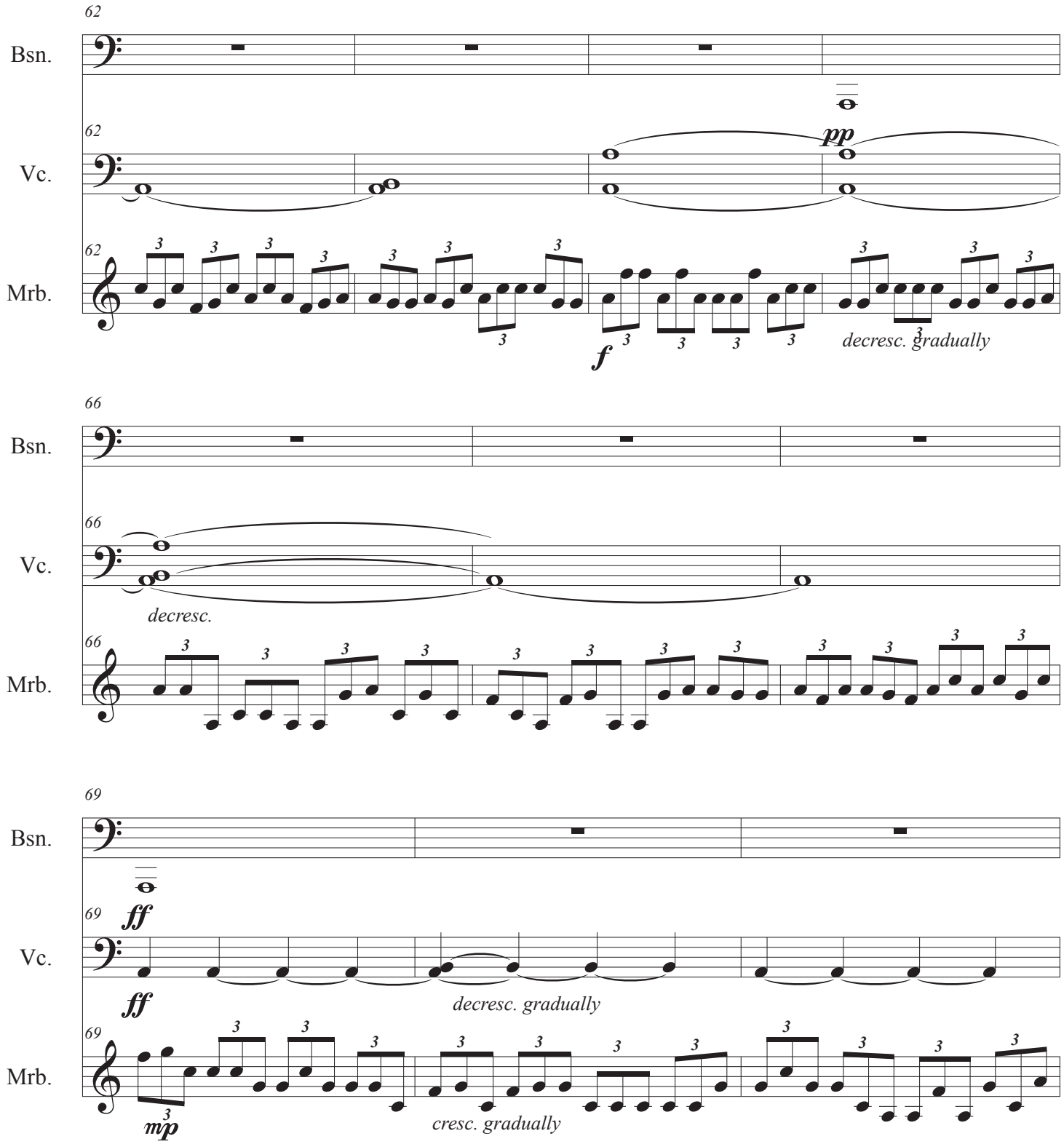

10
Bsn.
p
10
Vc.
ff
decresc. gradually
10
Mrb.
mf
13
Bsn.
p
cresc. gradually
13
Vc.
f
decresc. gradually
13
Mrb.
mf
decresc. gradually
17
Bsn.
ff
17
Vc.
ff
decresc. gradually
17
Mrb.
mp
cresc. gradually

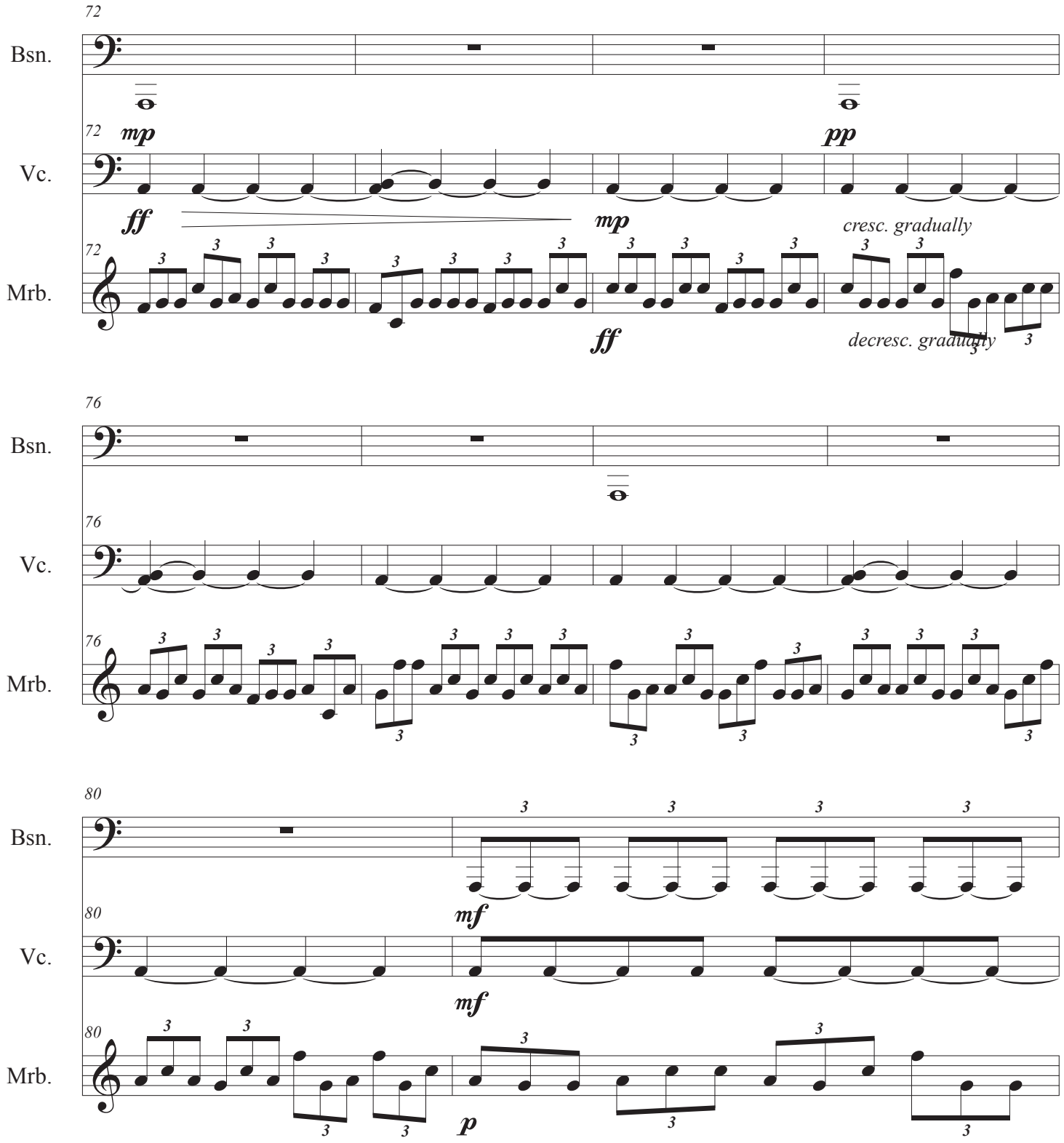

21
Bsn.
mp
21
Vc.
21
Mrb.
25
Bsn.
pp
cresc. gradually
25
Vc.
25
Mrb.
mf
decresc. gradually
29
Bsn.
p
29
Vc.
ppp
cresc.
29
Mrb.
mp

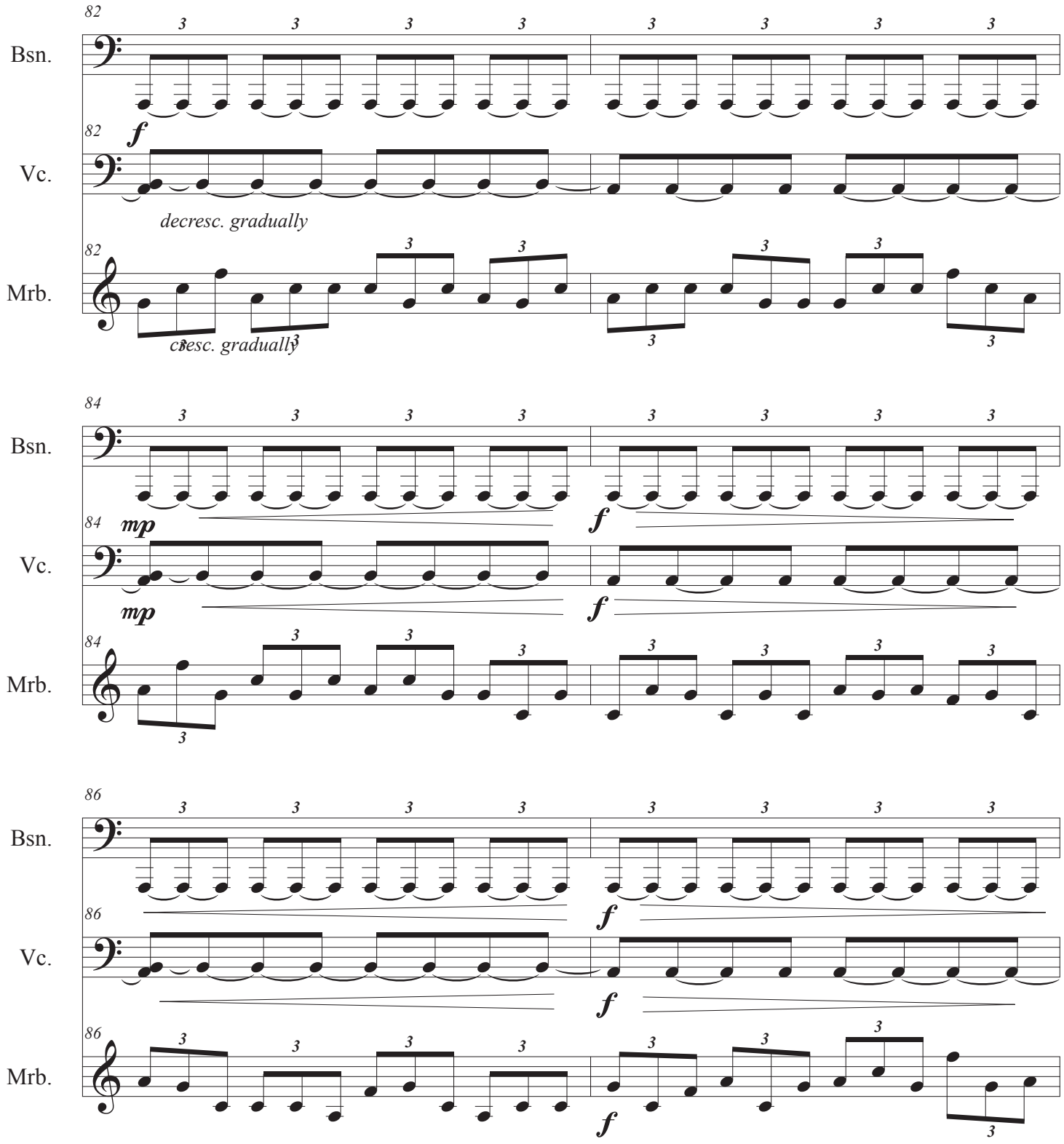

32
Bsn.
32
Vc.
32
Mrb.
35
Bsn.
35
Vc.
mp
decresc. gradually
35
Mrb.
mp
cresc. gradually
38
Bsn.
mf
mf
mf
38
Vc.
pp
38
Mrb.
mf

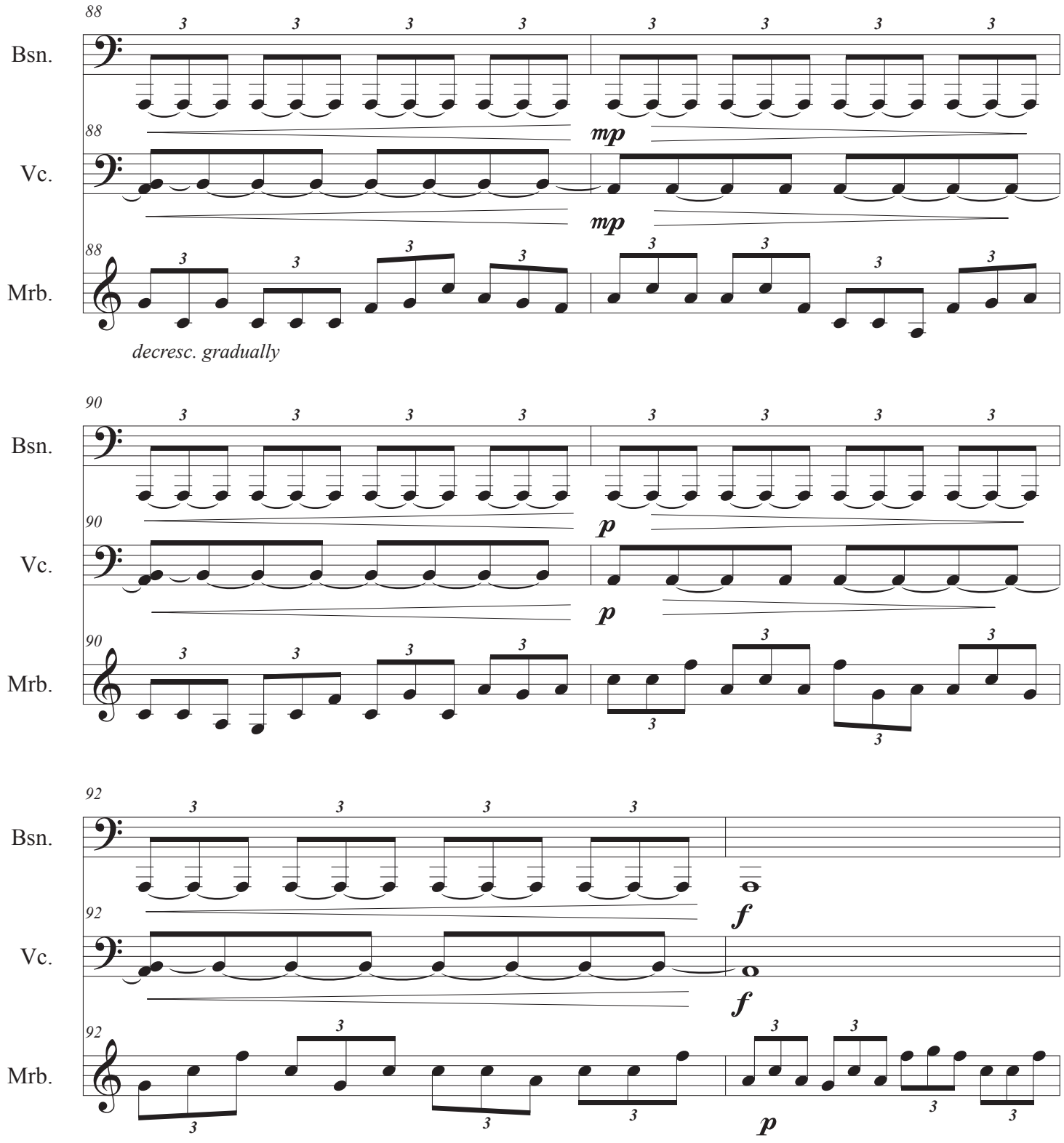

42
Bsn.
42
mf
mf
mf
mf
Vc.
cresc. gradually
42
Mrb.
decresc. gradually
46
Bsn.
pp
46
Vc.
mf
46
Mrb.
p
49
Bsn.
49
Vc.
decresc. gradually
49
Mrb.
cresc. gradually

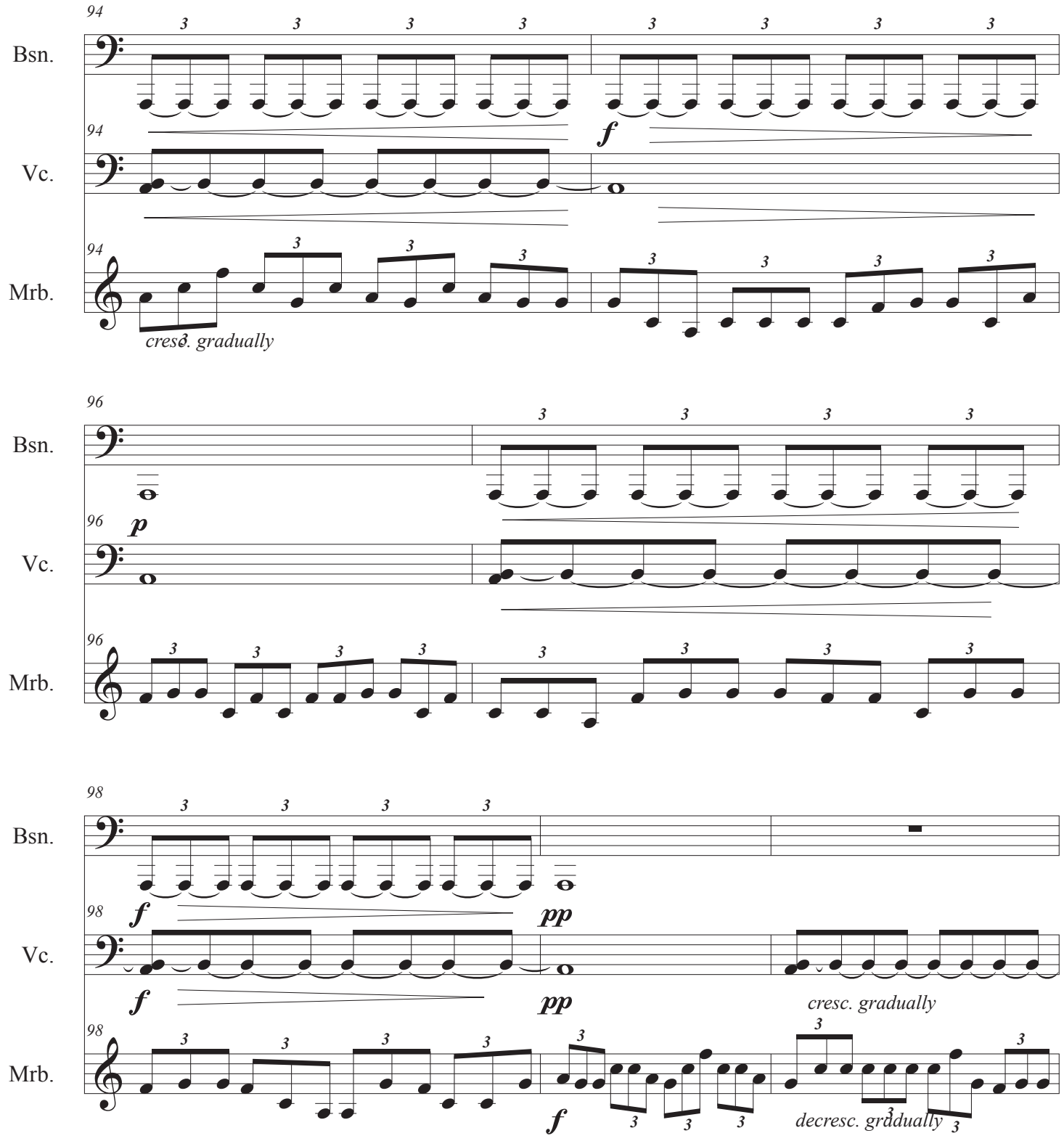

52
Bsn.
52
Vc.
pp
p
52
Mrb.
3
f
55
Bsn.
55
Vc.
cresc. gradually
55
Mrb.
decresc. gradually
59
Bsn.
59
Vc.
pp
f
59
Mrb.
mp
cresc. gradually

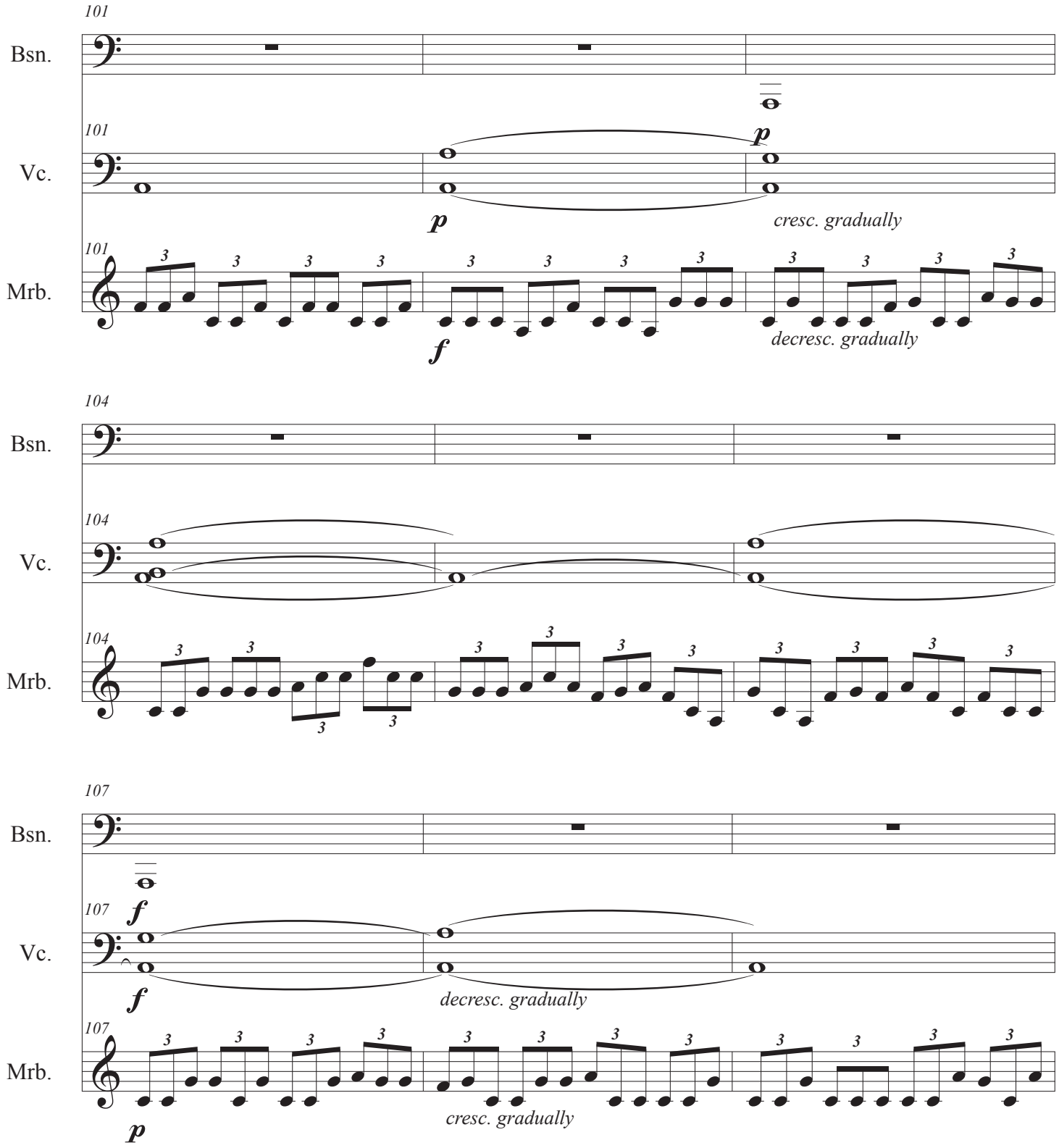

62
Bsn.
62
Vc.
pp
62
Mrb.
f
decresc. gradually
66
Bsn.
66
Vc.
decresc.
66
Mrb.
69
Bsn.
ff
69
Vc.
ff
decresc. gradually
69
Mrb.
mp
cresc. gradually

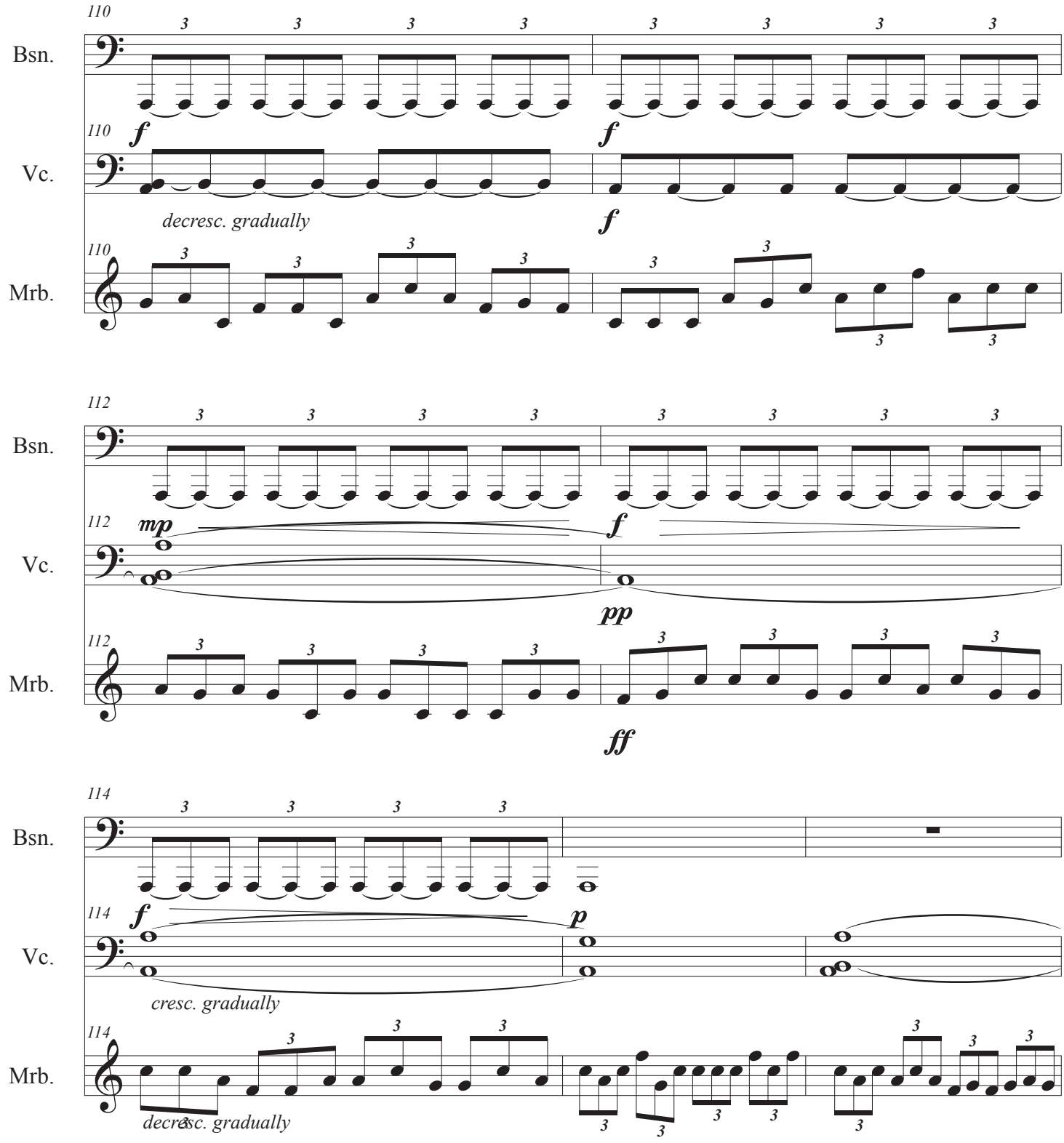

72
Bsn.
72
mp
pp
Vc.
ff
mp
cresc. gradually
72
Mrb.
ff
decresc. gradually
76
Bsn.
76
Vc.
76
Mrb.
80
Bsn.
mf
80
Vc.
mf
80
Mrb.
p

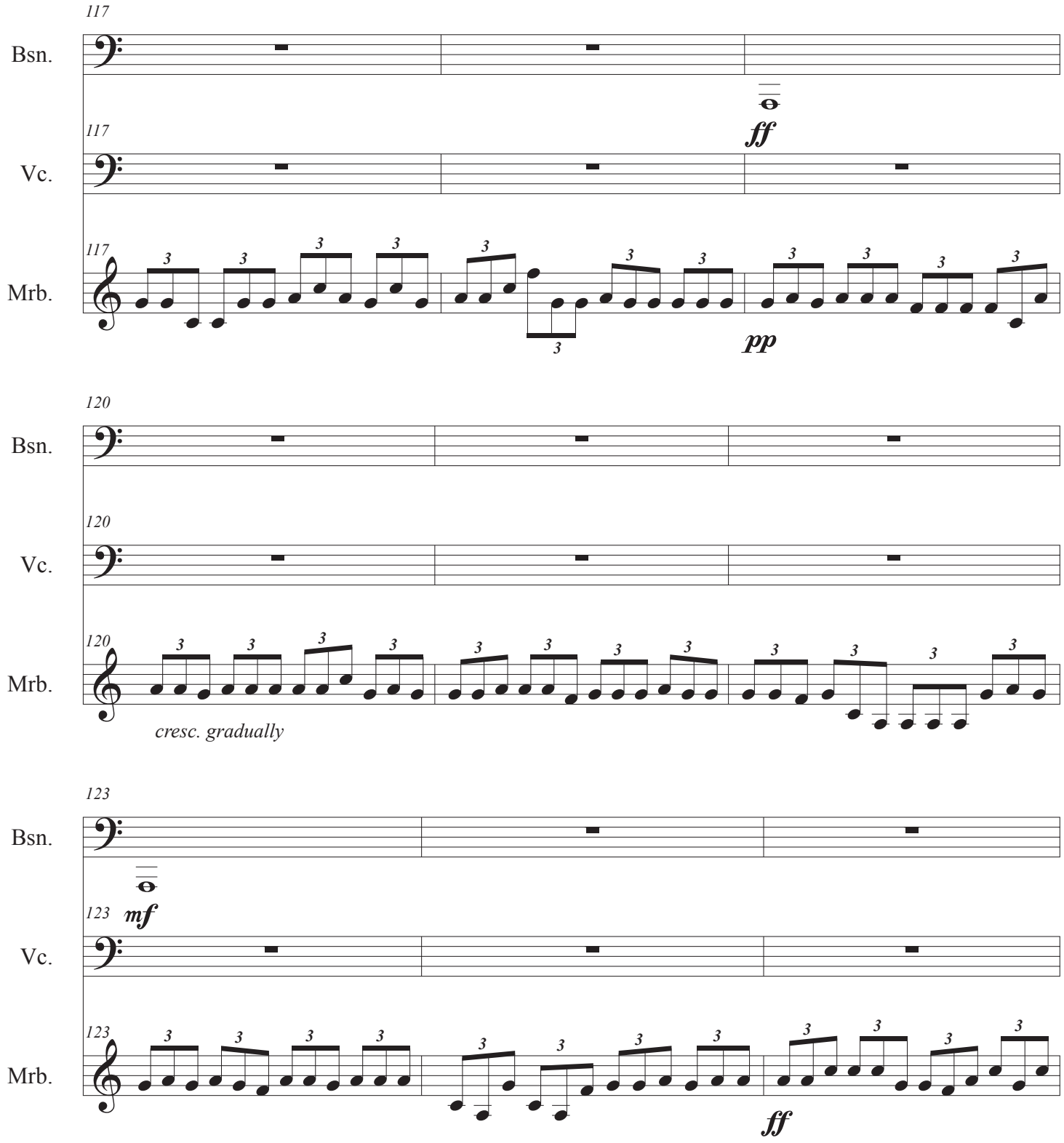

82
Bsn.
82
f
Vc.
decresc. gradually
82
Mrb.
cresc. gradually
84
Bsn.
84
mp
f
Vc.
mp
f
84
Mrb.
86
Bsn.
86
f
Vc.
f
86
Mrb.
f

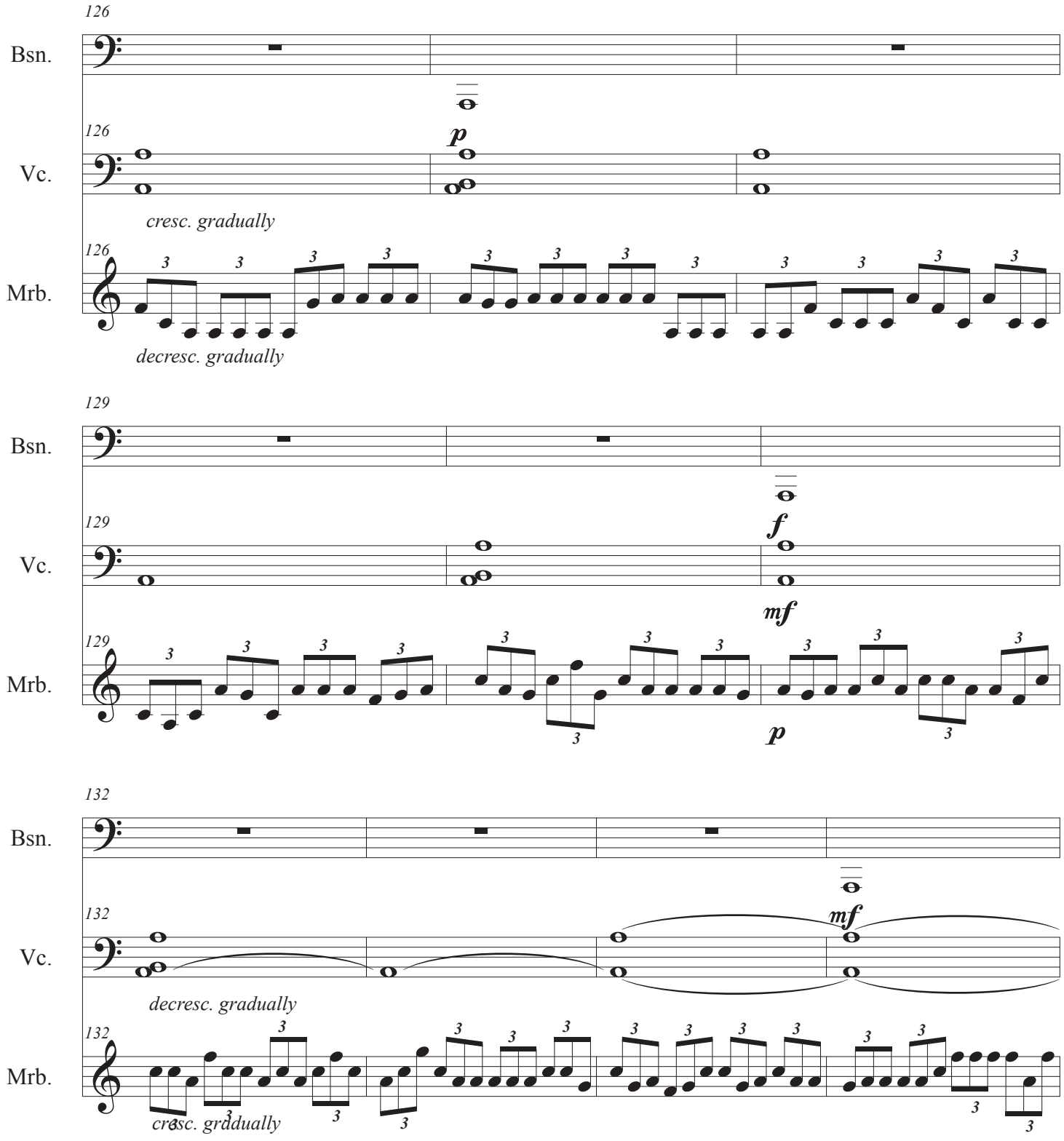

88
Bsn.
88
Vc.
88
Mrb.
mp
mp
decresc. gradually
90
Bsn.
90
Vc.
90
Mrb.
p
p
92
Bsn.
92
Vc.
92
Mrb.
f
f
p

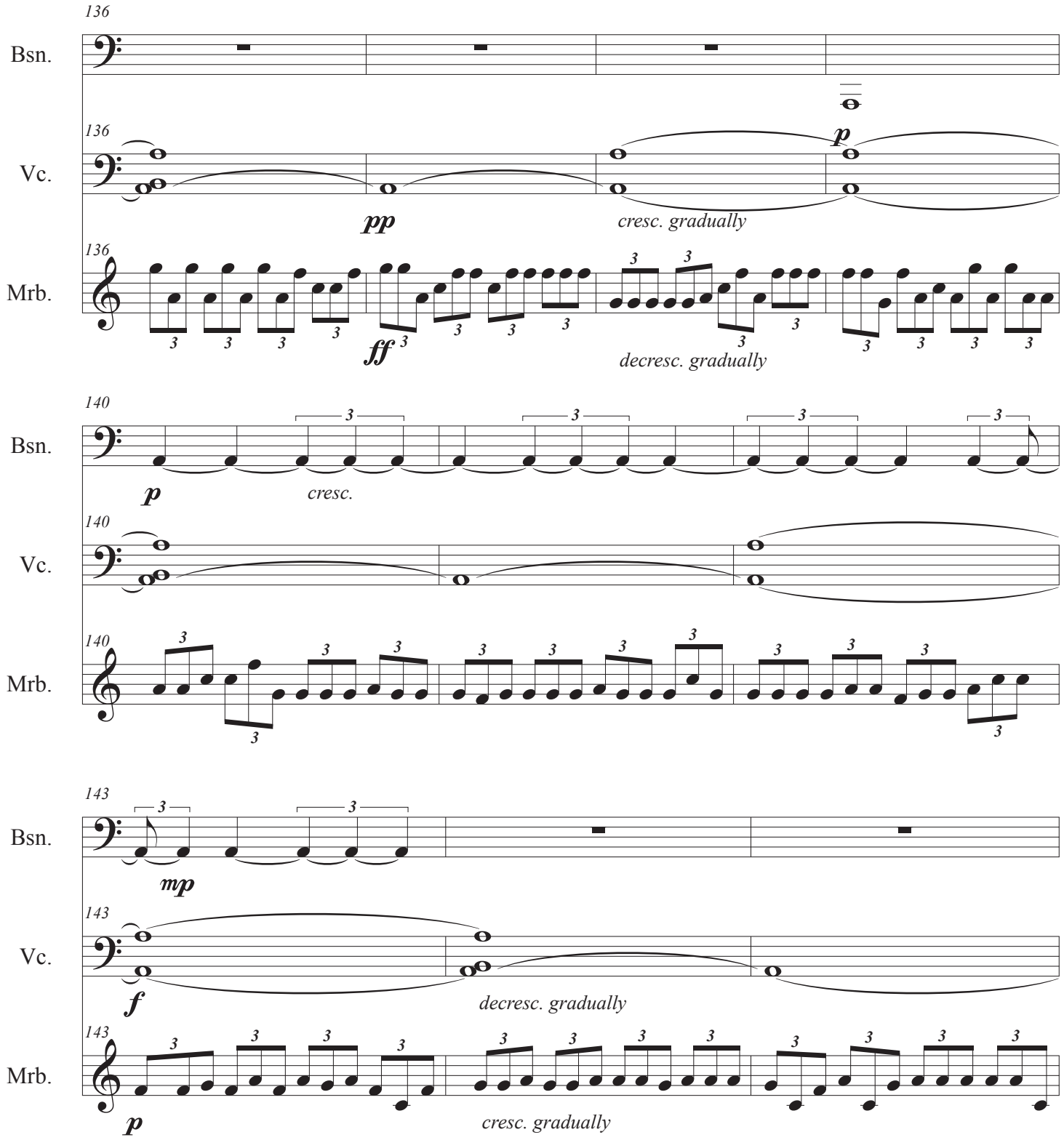

94
Bsn.
Vc.
Mrb.
f
cresc. gradually
96
p
98
pp
cresc. gradually
decresc. gradually

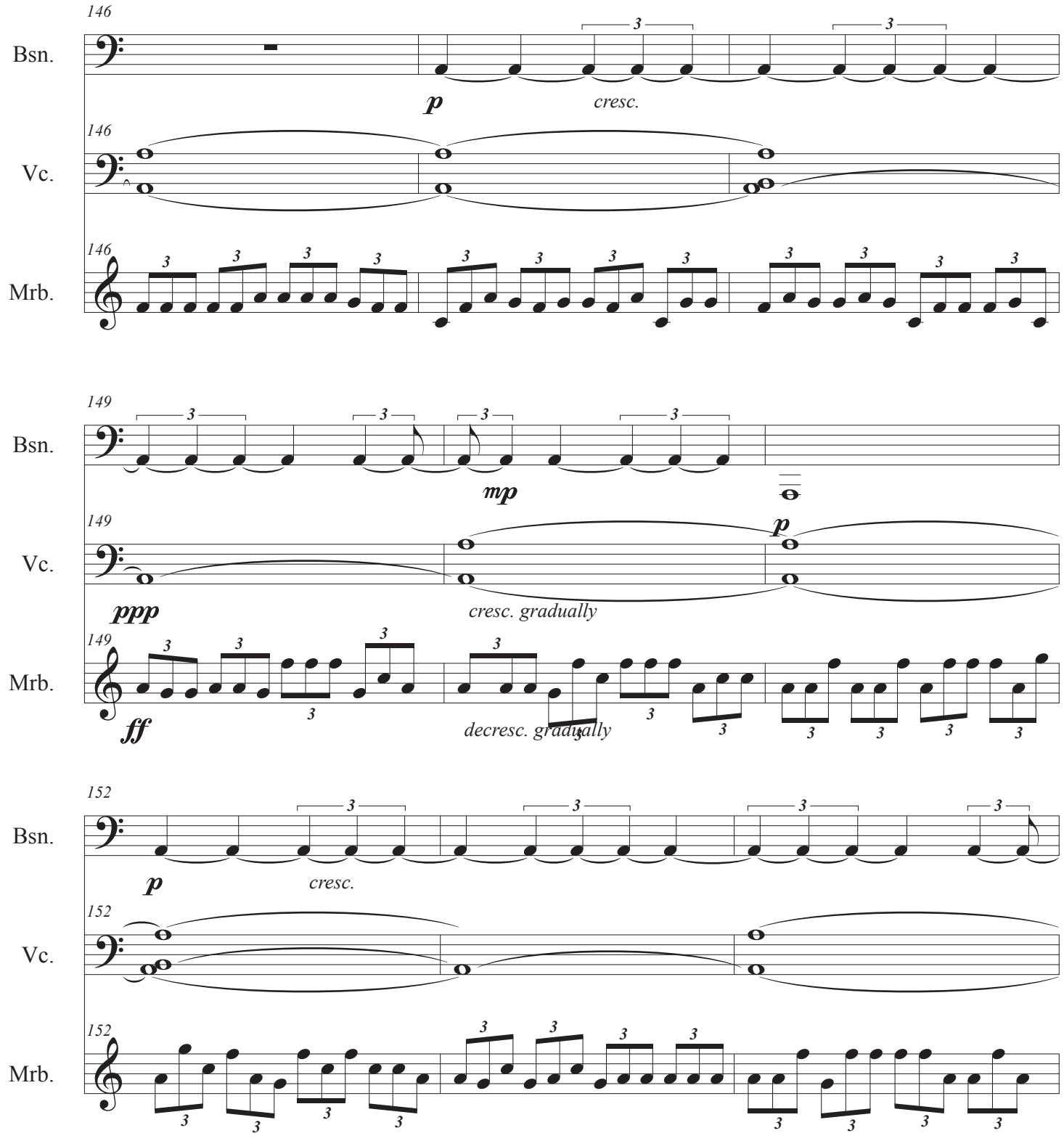

101
Bsn.
101
Vc.
p
p
cresc. gradually
101
Mrb.
f
decresc. gradually
104
Bsn.
104
Vc.
104
Mrb.
107
Bsn.
f
107
Vc.
f
decresc. gradually
107
Mrb.
p
cresc. gradually

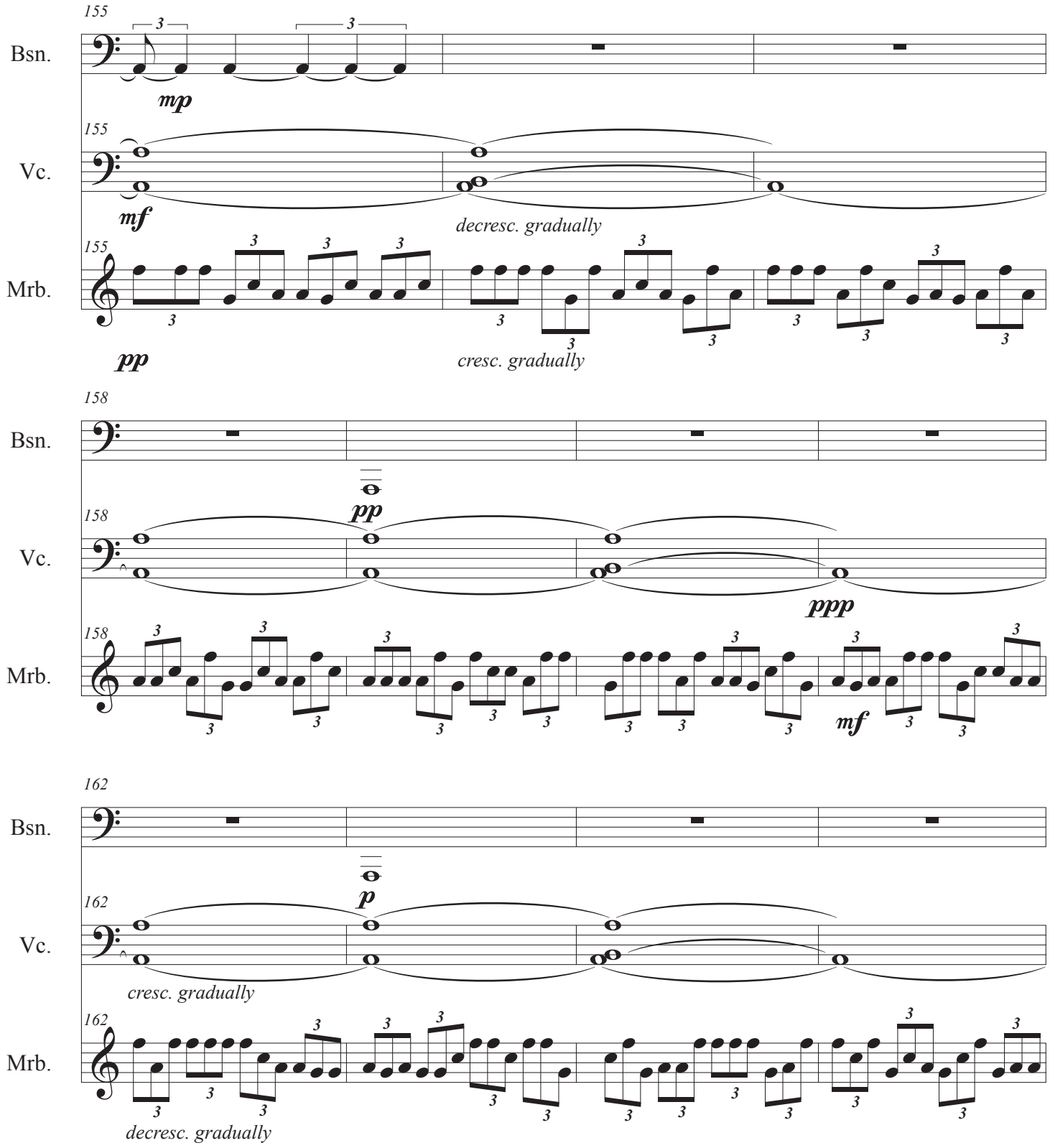

110
Bsn.
Vc.
Mrb.
f
decresc. gradually
112
mp
pp
ff
114
cresc. gradually
decresc. gradually

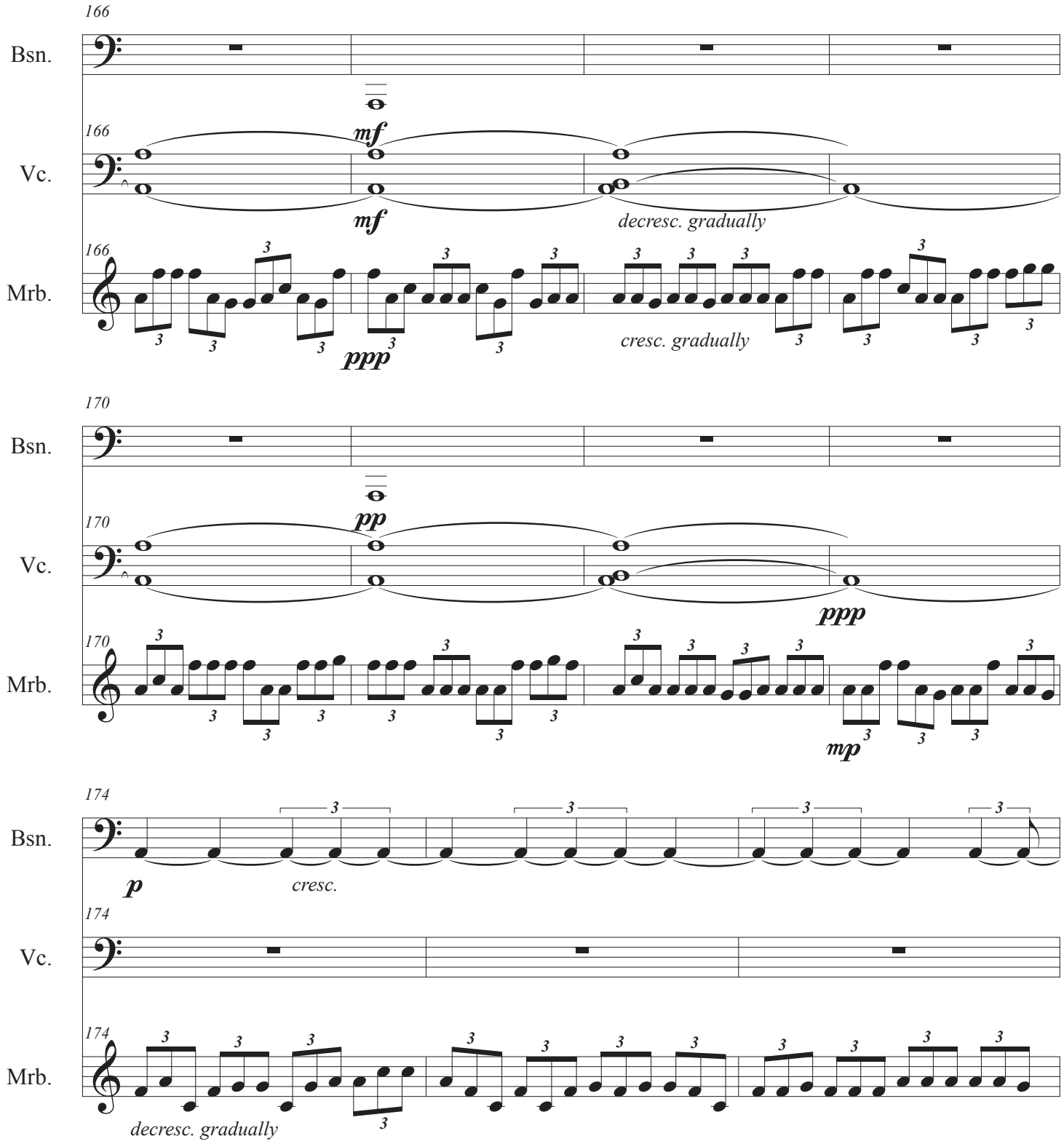

117
Bsn.
117
Vc.
117
Mrb.
ff
pp
120
Bsn.
120
Vc.
120
Mrb.
cresc. gradually
123
Bsn.
123
mf
Vc.
123
Mrb.
ff

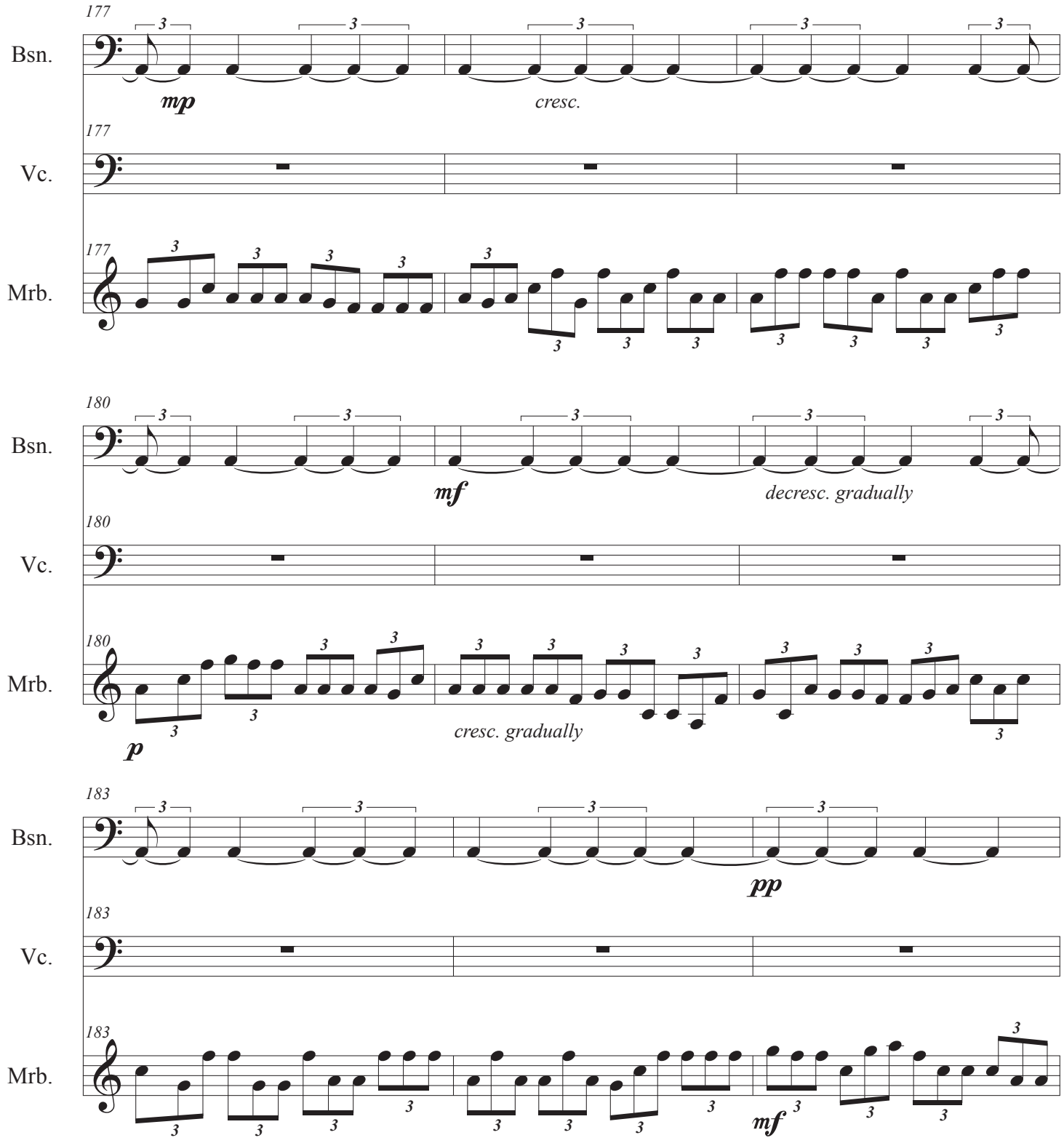

126
Bsn.
126
Vc.
p
cresc. gradually
126
Mrb.
decresc. gradually
129
Bsn.
129
Vc.
f
mf
129
Mrb.
p
132
Bsn.
132
Vc.
mf
decresc. gradually
132
Mrb.
cresc. grddually

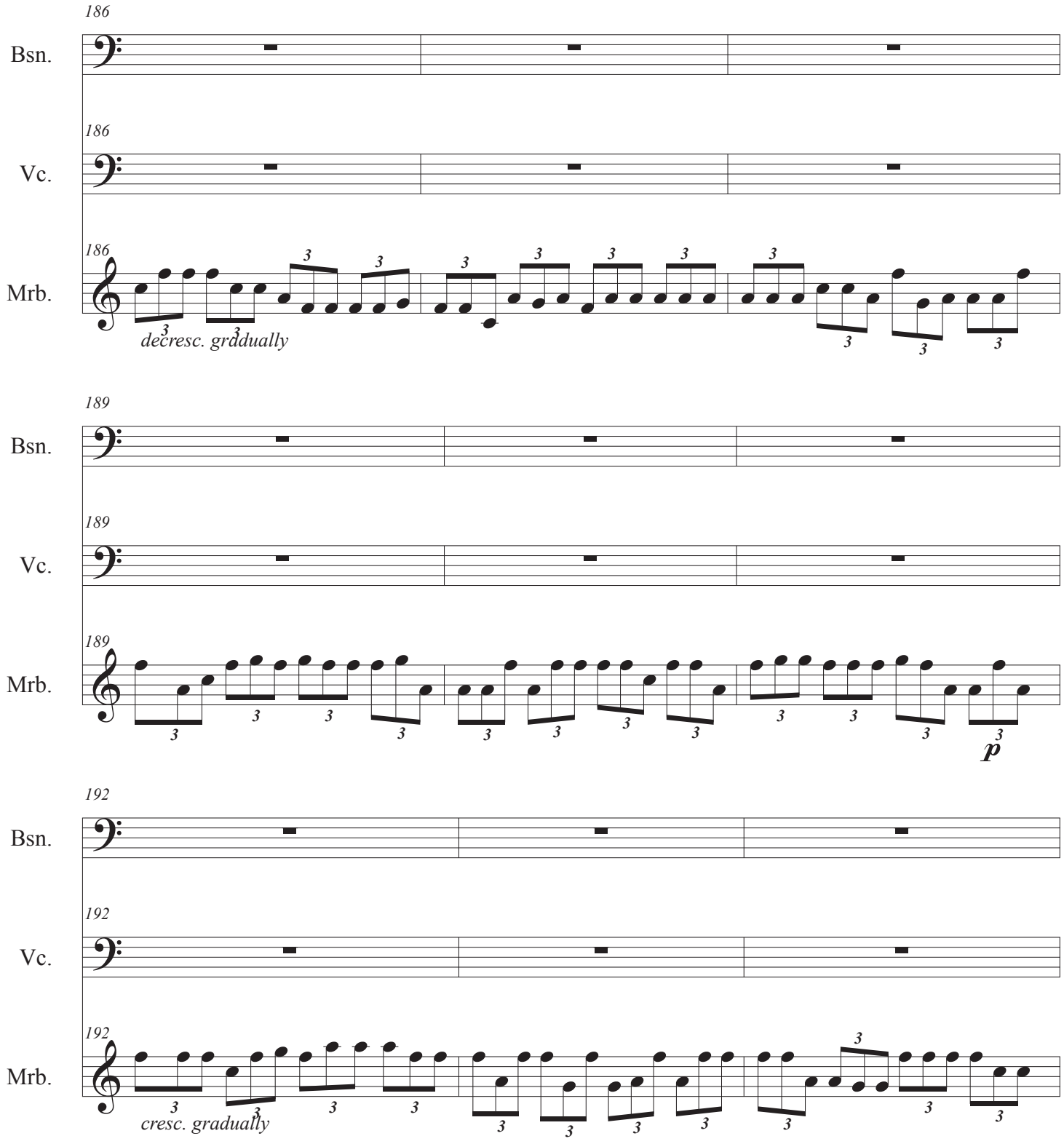

136
Bsn.
136
Vc.
pp
cresc. gradually
p
136
Mrb.
ff
decresc. gradually
140
Bsn.
p
cresc.
140
Vc.
140
Mrb.
143
Bsn.
mp
143
Vc.
f
decresc. gradually
143
Mrb.
p
cresc. gradually

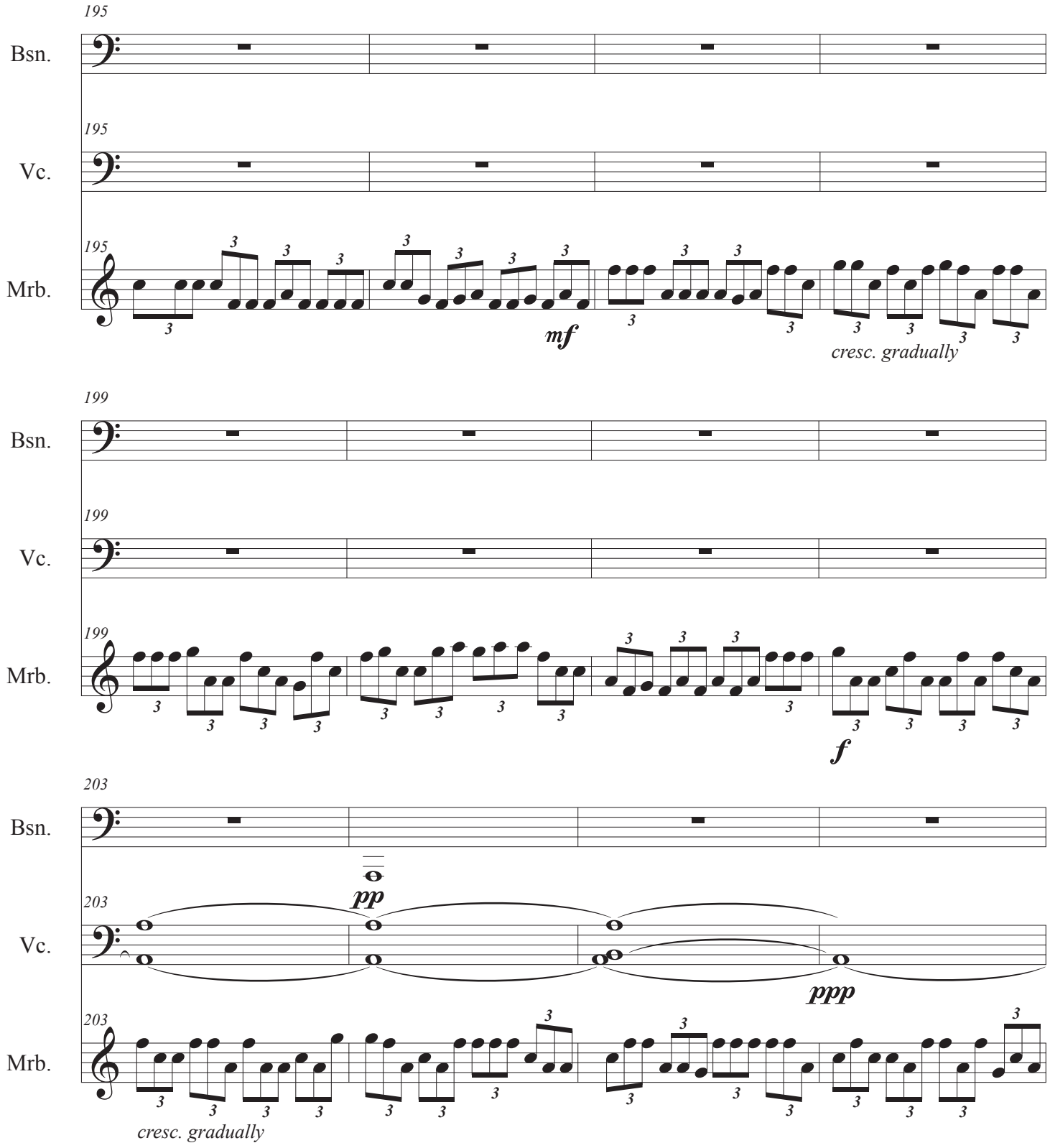

146
Bsn.
p
cresc.
146
Vc.
146
Mrb.
149
Bsn.
mp
149
Vc.
p
ppp
cresc. gradually
149
Mrb.
ff
decresc. gradually
152
Bsn.
p
cresc.
152
Vc.
152
Mrb.

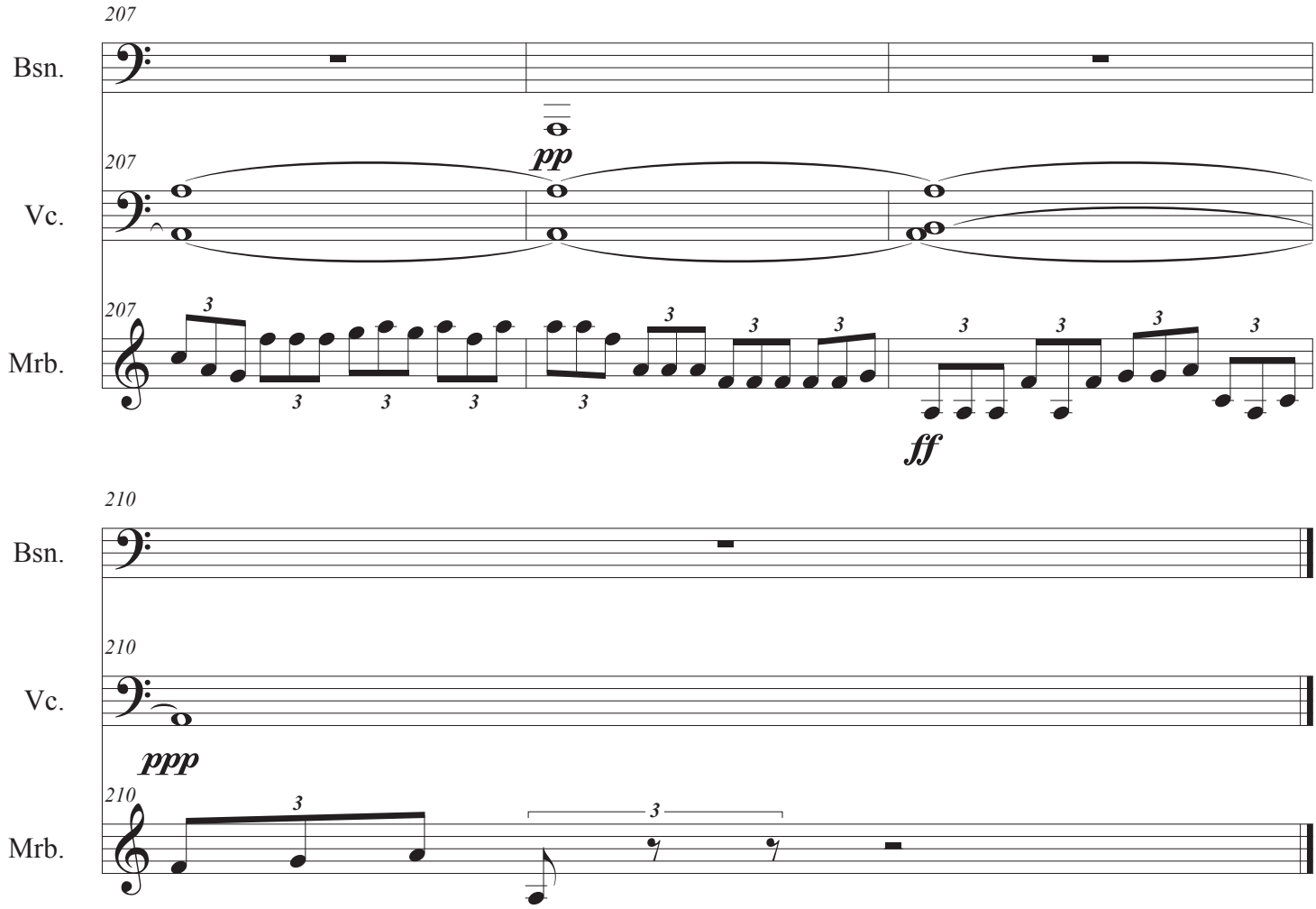

155
Bsn.
mp
155
Vc.
mf
decresc. gradually
155
Mrb.
pp
cresc. gradually
158
Bsn.
158
Vc.
pp
ppp
158
Mrb.
mf
162
Bsn.
162
Vc.
p
cresc. gradually
162
Mrb.
decresc. gradually


166
Bsn.
166
Vc.
mf
mf
decresc. gradually
166
Mrb.
ppp
cresc. gradually
170
Bsn.
170
Vc.
pp
ppp
170
Mrb.
mp
174
Bsn.
p
cresc.
174
Vc.
174
Mrb.
decresc. gradually


177
Bsn.
mp
cresc.
177
Vc.
177
Mrb.
180
Bsn.
mf
decresc. gradually
180
Vc.
180
Mrb.
p
cresc. gradually
183
Bsn.
pp
183
Vc.
183
Mrb.
mf


186
Bsn.
186
Vc.
186
Mrb.
decresc. gradually
189
Bsn.
189
Vc.
189
Mrb.
p
192
Bsn.
192
Vc.
192
Mrb.
cresc. gradually


195
Bsn.
195
Vc.
195
Mrb.
mf
cresc. gradually
199
Bsn.
199
Vc.
199
Mrb.
f
203
Bsn.
203
Vc.
pp
ppp
203
Mrb.
cresc. gradually

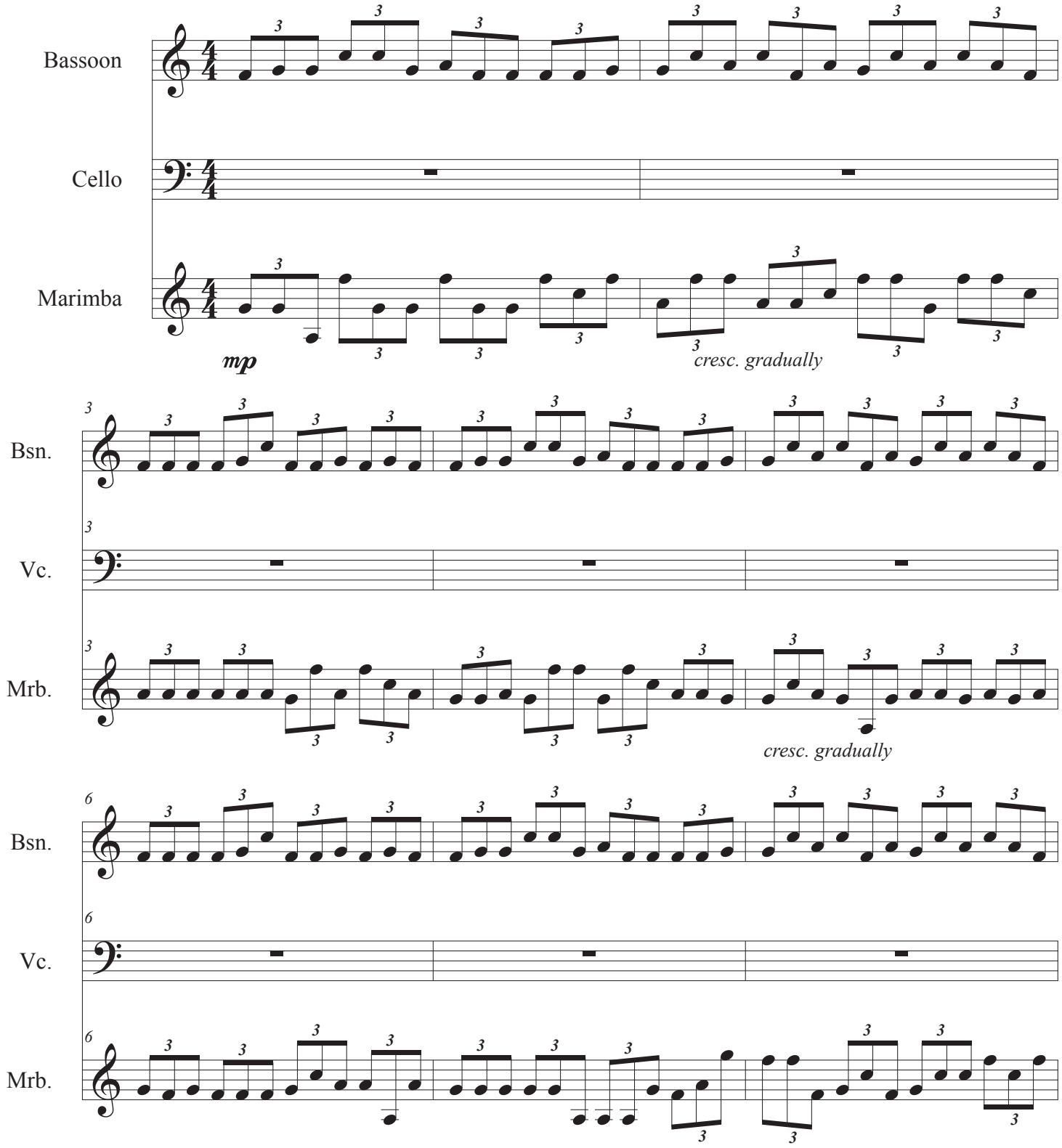

207
Bsn.
207
Vc.
pp
207
Mrb.
3
ff
210
Bsn.
210
Vc.
ppp
210
Mrb.
3

Score

Epigenetic Switches

5. Non-coding RNA

Paul Walde



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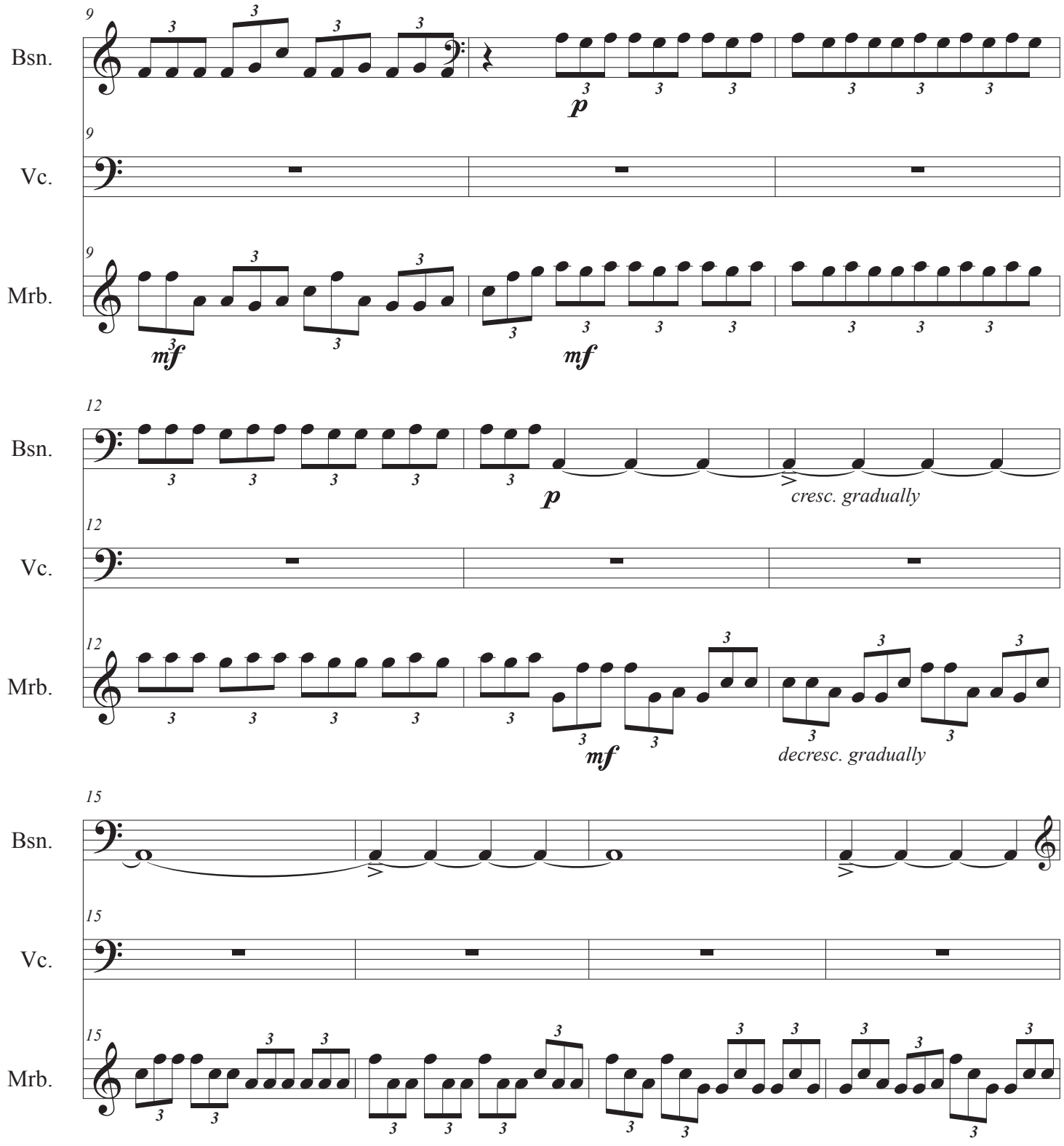
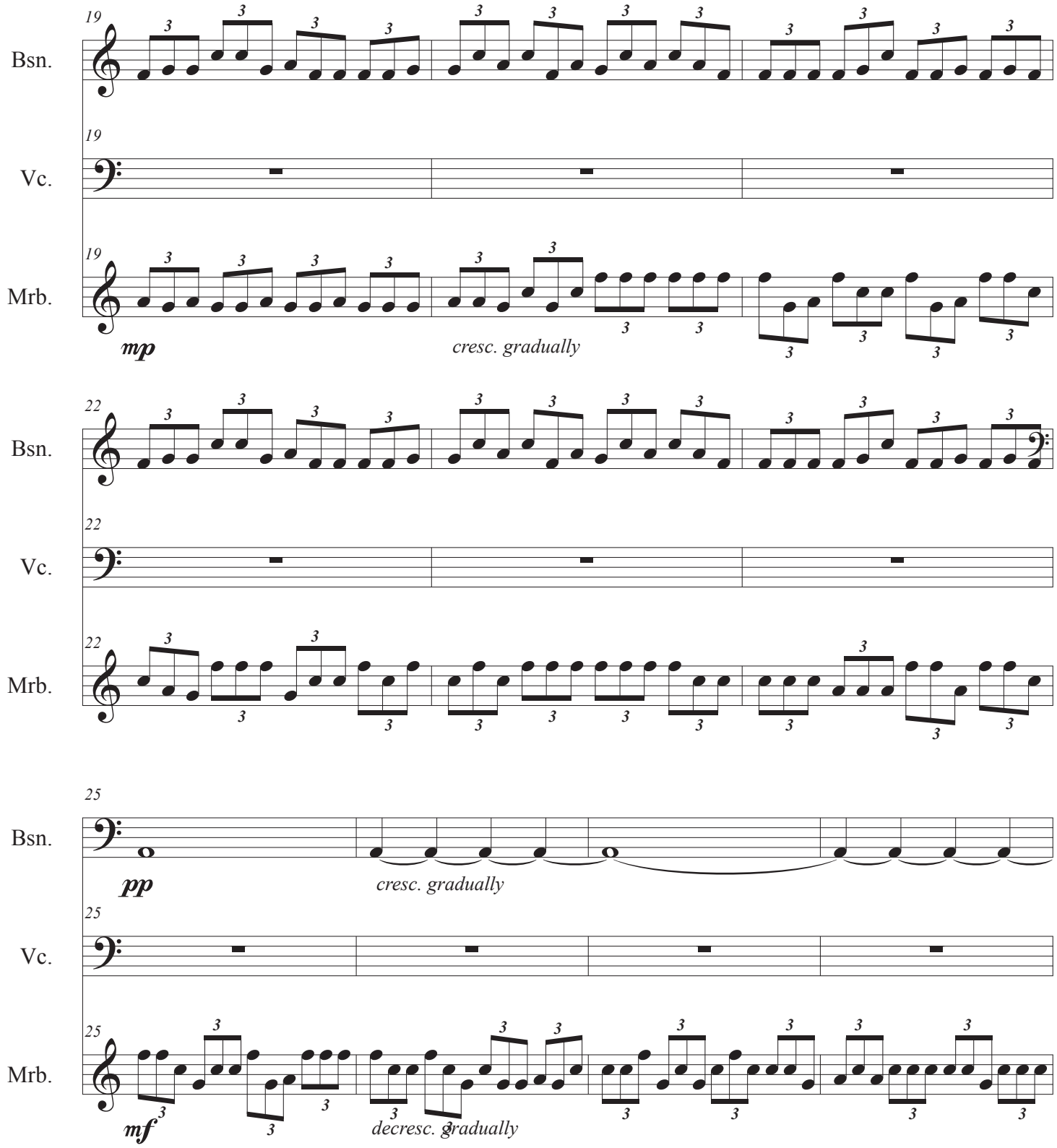
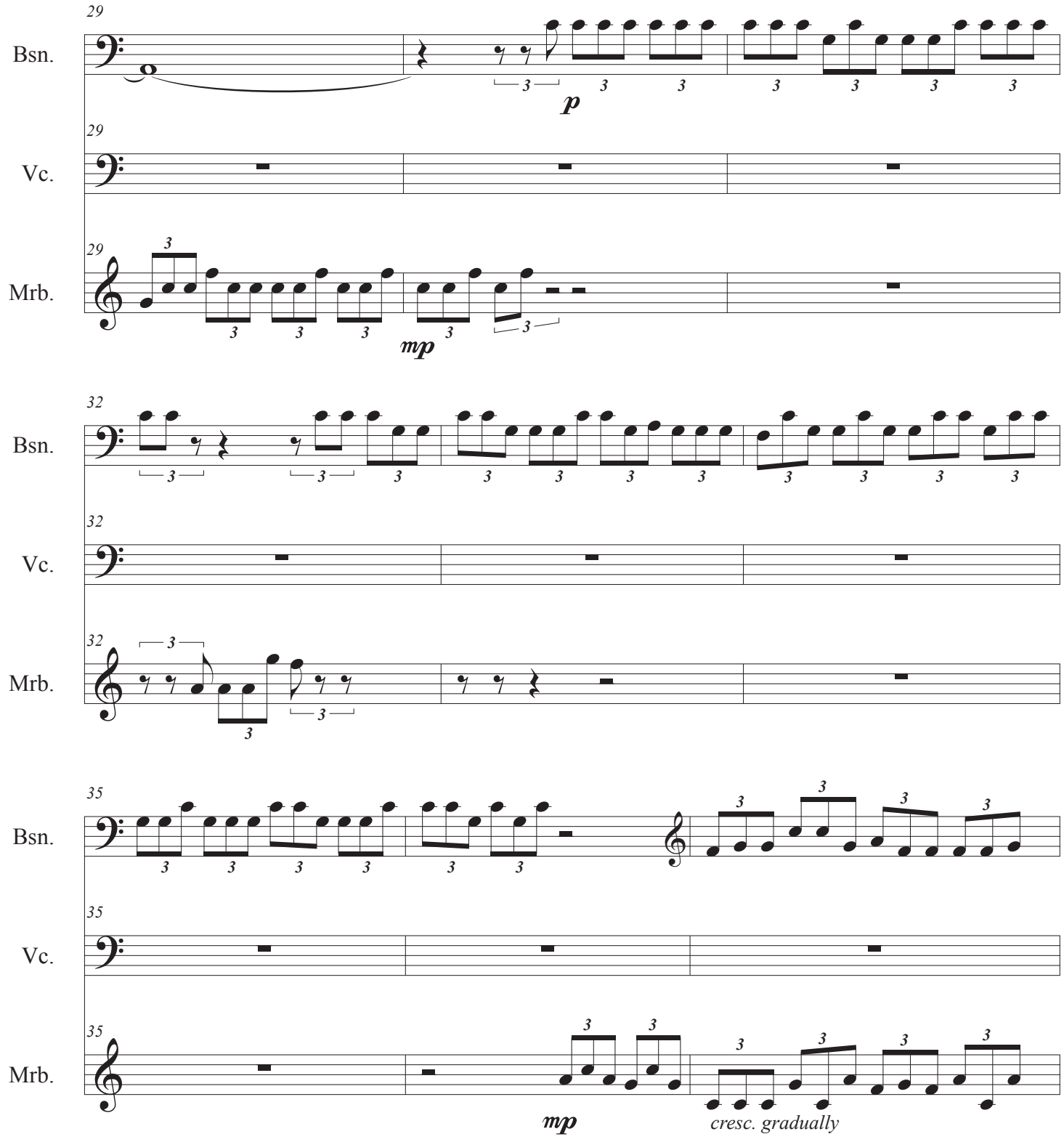
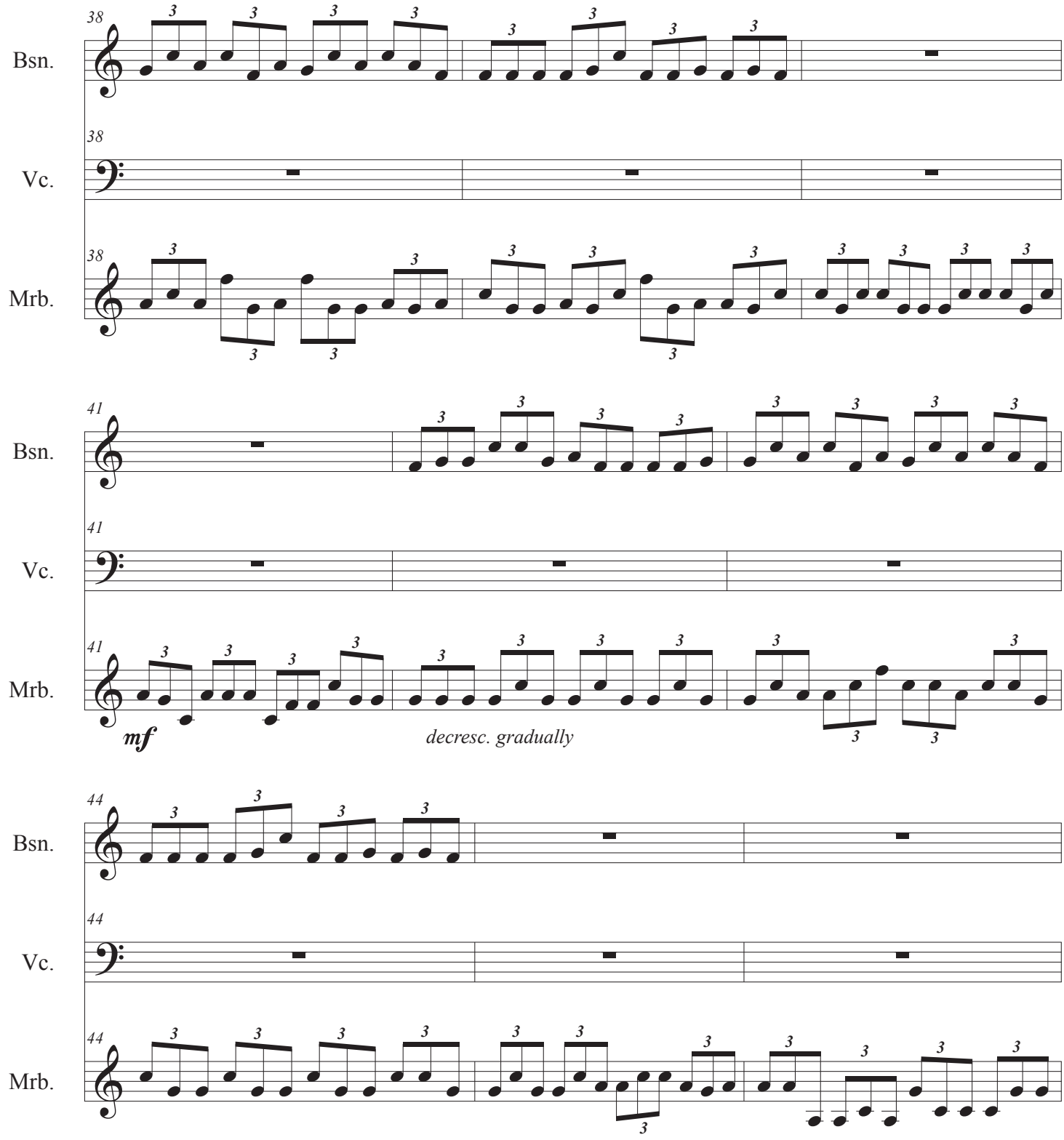
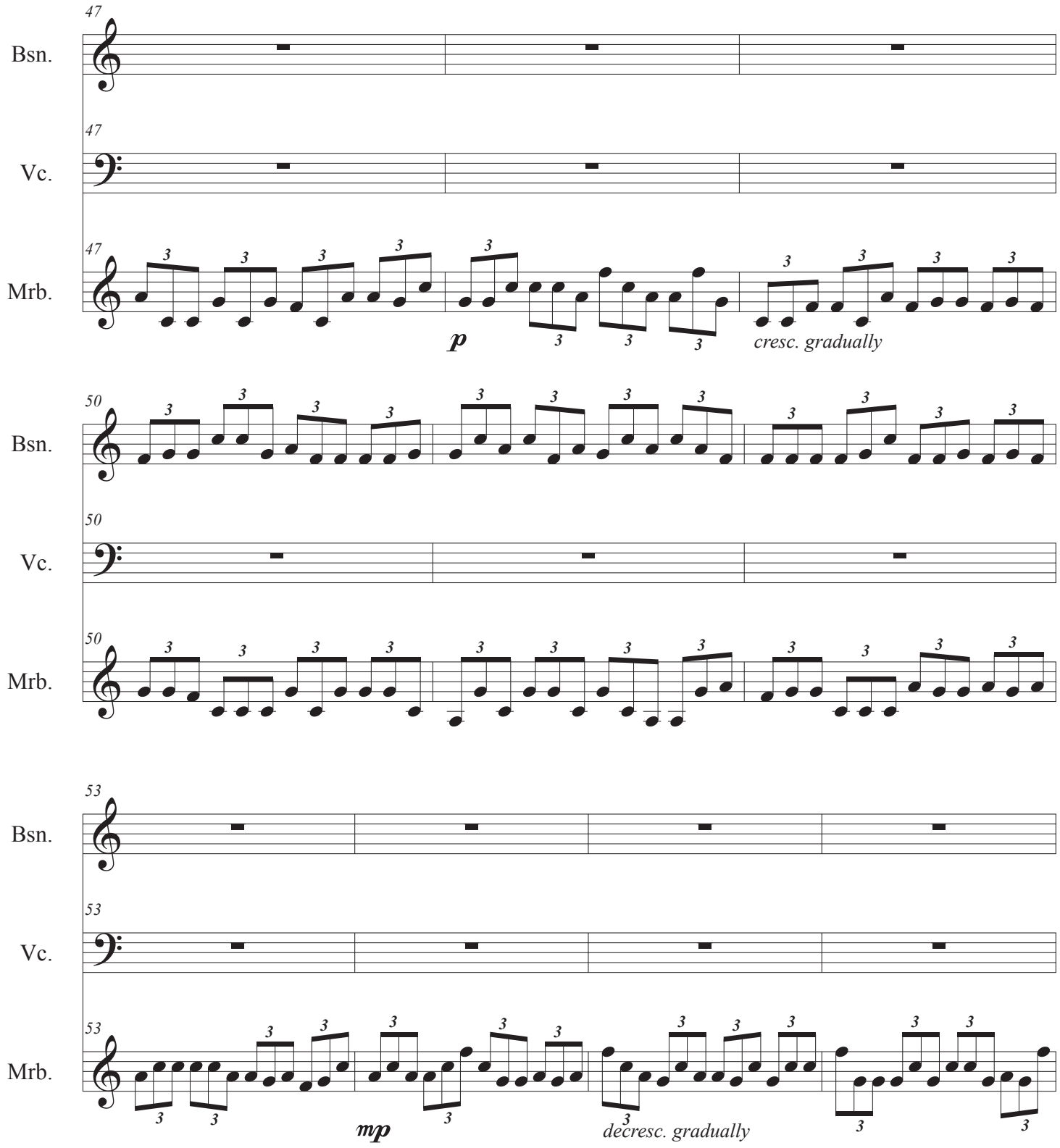
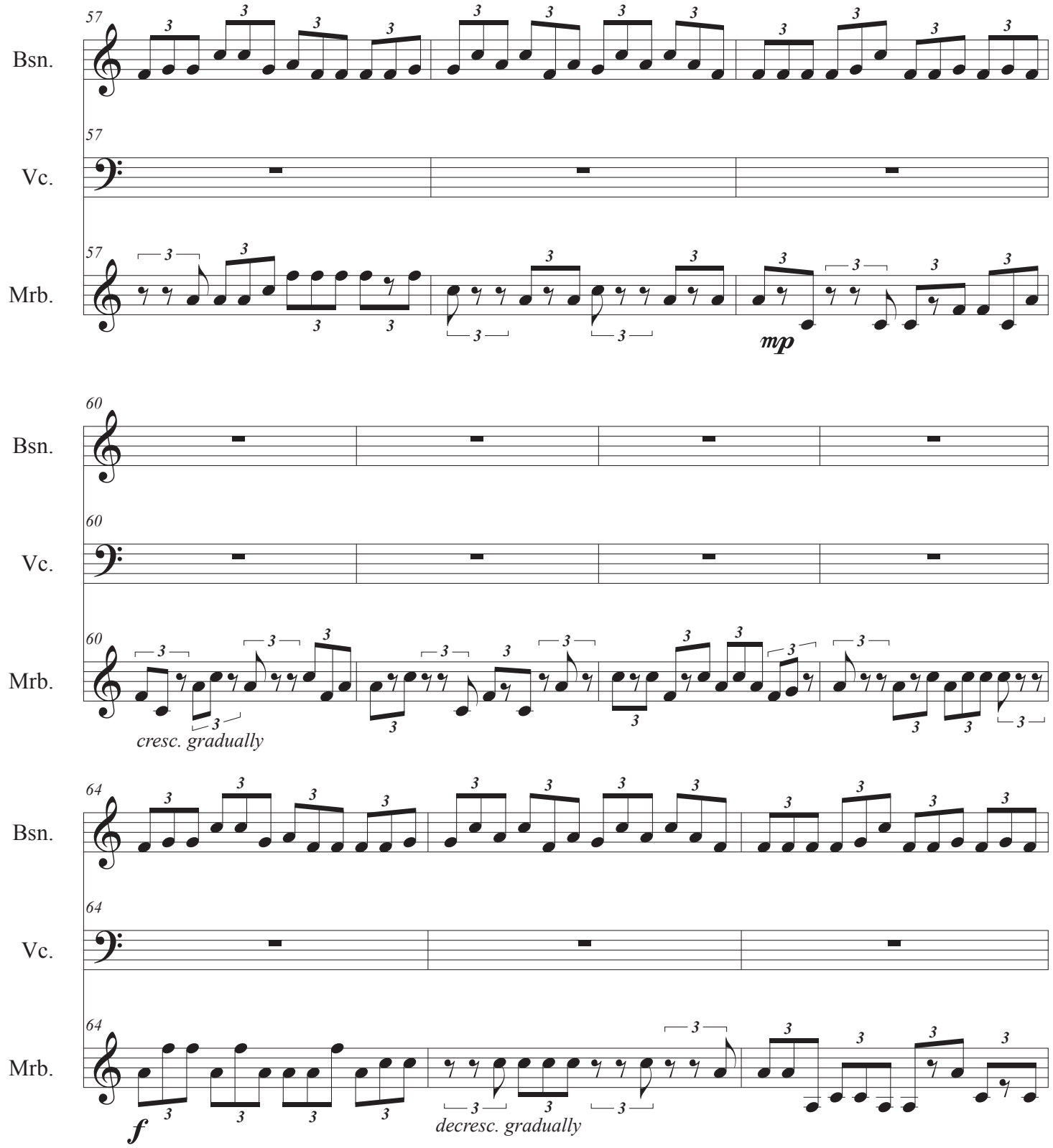

9
Bsn.
p
9
Vc.
9
Mrb.
mf
mf
12
Bsn.
p
cresc. gradually
12
Vc.
12
Mrb.
mf
decresc. gradually
15
Bsn.
15
Vc.
15
Mrb.

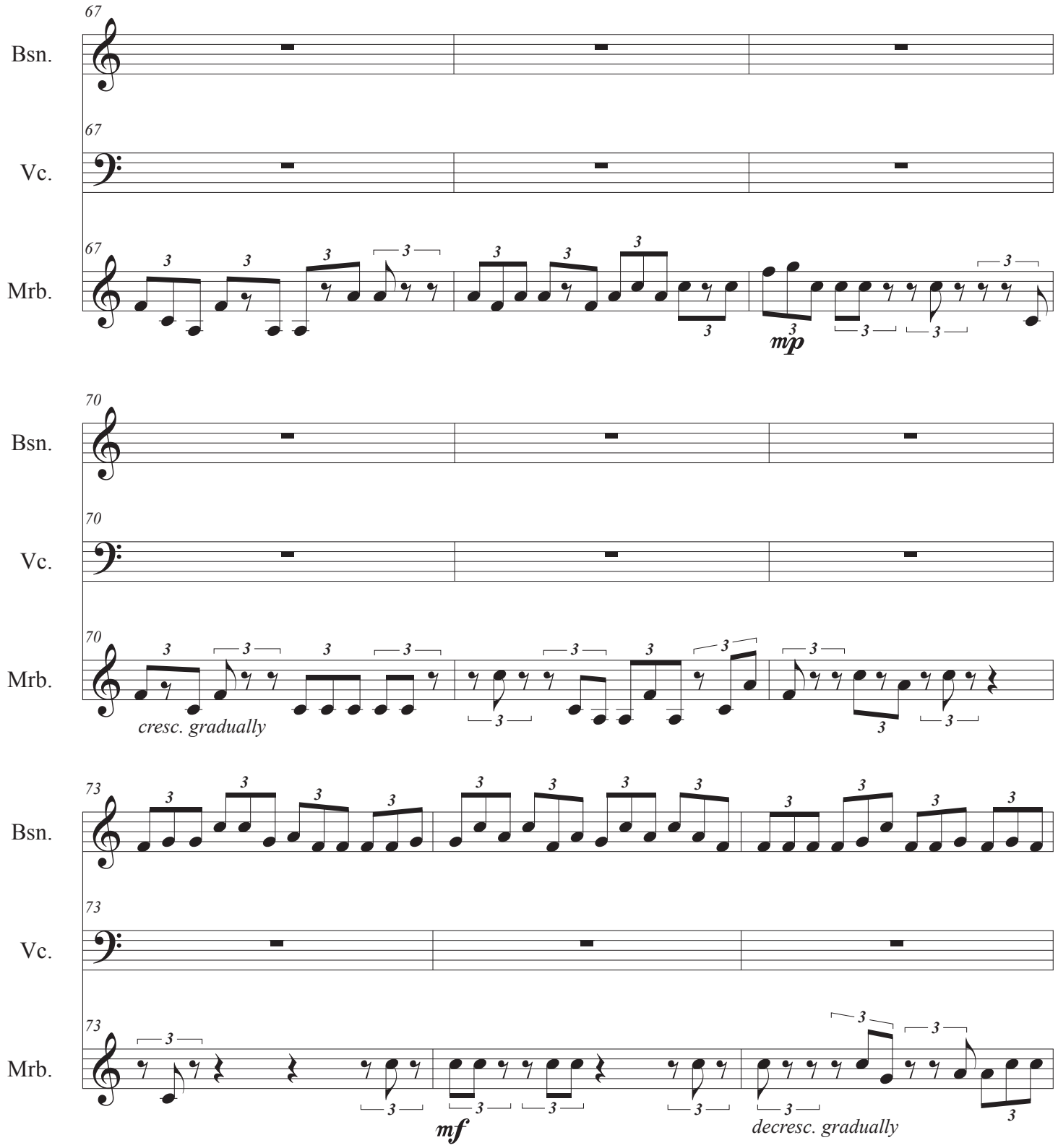

19
Bsn.
19
Vc.
19
Mrb.
mp
cresc. gradually
22
Bsn.
22
Vc.
22
Mrb.
25
Bsn.
pp
cresc. gradually
25
Vc.
25
Mrb.
mf
decresc. gradually

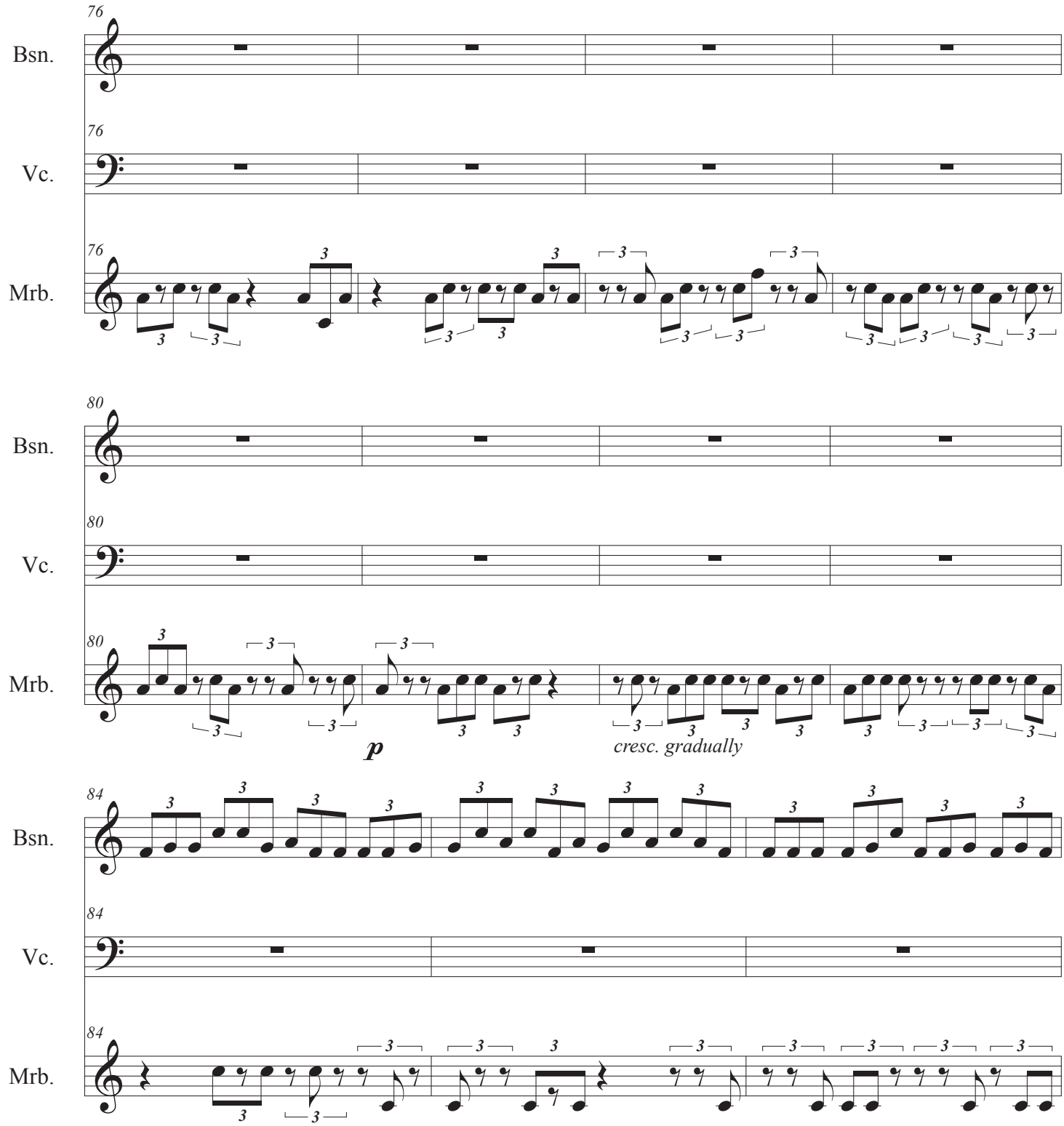

29
Bsn.
p
29
Vc.
29
Mrb.
mp
32
Bsn.
32
Vc.
32
Mrb.
35
Bsn.
35
Vc.
35
Mrb.
mp
cresc. gradually

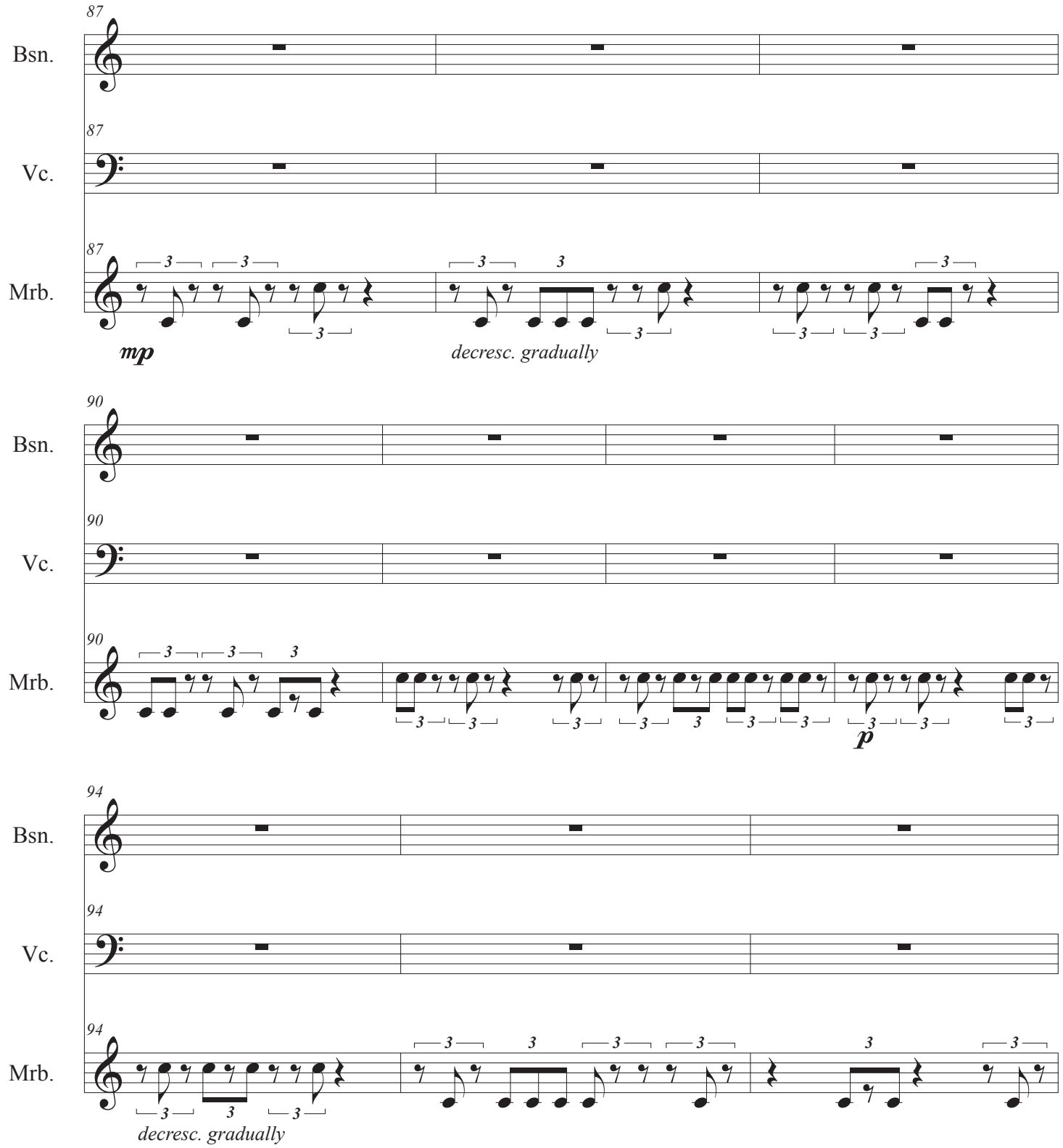

38
Bsn.
38
Vc.
38
Mrb.
41
Bsn.
41
Vc.
41
Mrb.
mf
decresc. gradually
44
Bsn.
44
Vc.
44
Mrb.

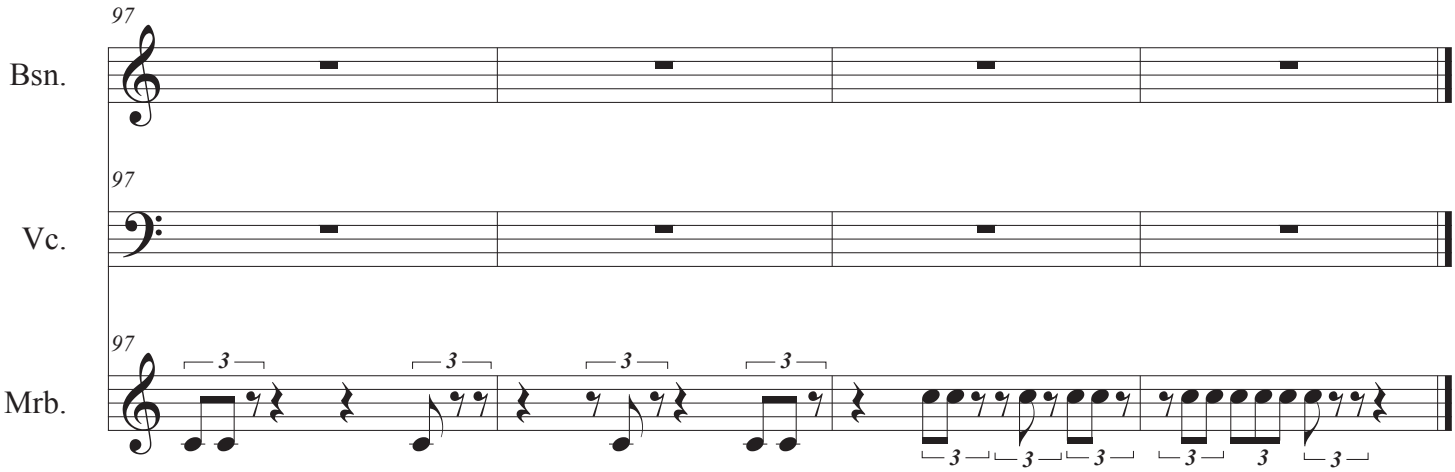

47
Bsn.
47
Vc.
47
Mrb.
p
cresc. gradually
50
Bsn.
50
Vc.
50
Mrb.
53
Bsn.
53
Vc.
53
Mrb.
mp
decresc. gradually


57
Bsn.
57
Vc.
57
Mrb.
mp
60
Bsn.
60
Vc.
60
Mrb.
cresc. gradually
64
Bsn.
64
Vc.
64
Mrb.
f
decresc. gradually


67
Bsn.
67
Vc.
67
Mrb.
mp
70
Bsn.
70
Vc.
70
Mrb.
cresc. gradually
73
Bsn.
73
Vc.
73
Mrb.
mf
decresc. gradually


76
Bsn.
76
Vc.
76
Mrb.
80
Bsn.
80
Vc.
80
Mrb.
p
cresc. gradually
84
Bsn.
84
Vc.
84
Mrb.


87
Bsn.
87
Vc.
87
Mrb.
mp
decresc. gradually
90
Bsn.
90
Vc.
90
Mrb.
p
94
Bsn.
94
Vc.
94
Mrb.
decresc. gradually


97
Bsn.
97
Vc.
97
Mrb.
3
3
3
3
3
3
3
3
3
3
3