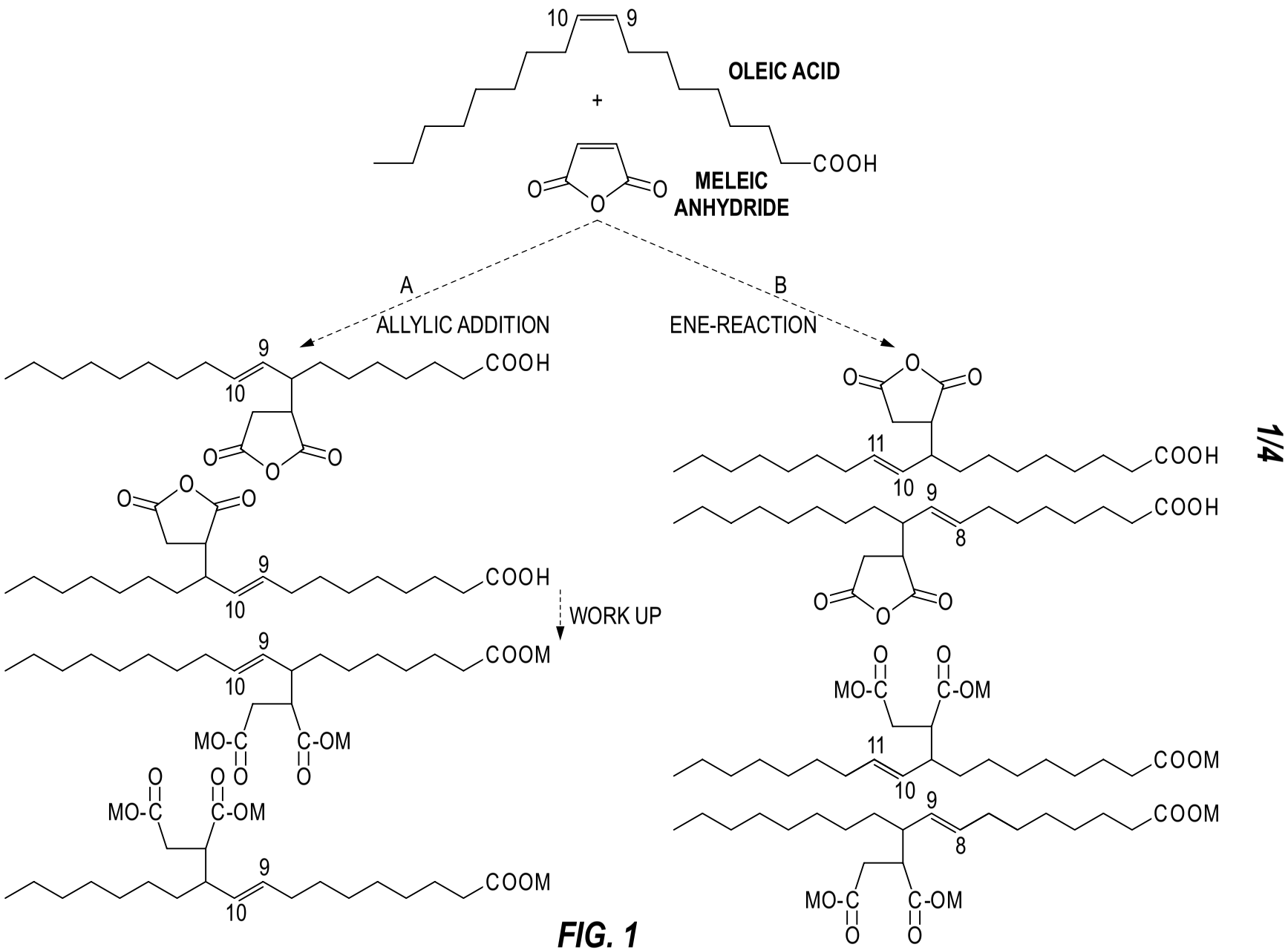

OLEIC ACID
MELEIC ANHYDRIDE
A
ALLYLIC ADDITION
B
ENE-REACTION
WORK UP
COOH
COOM
MO-C
C-OM

FIG. 1

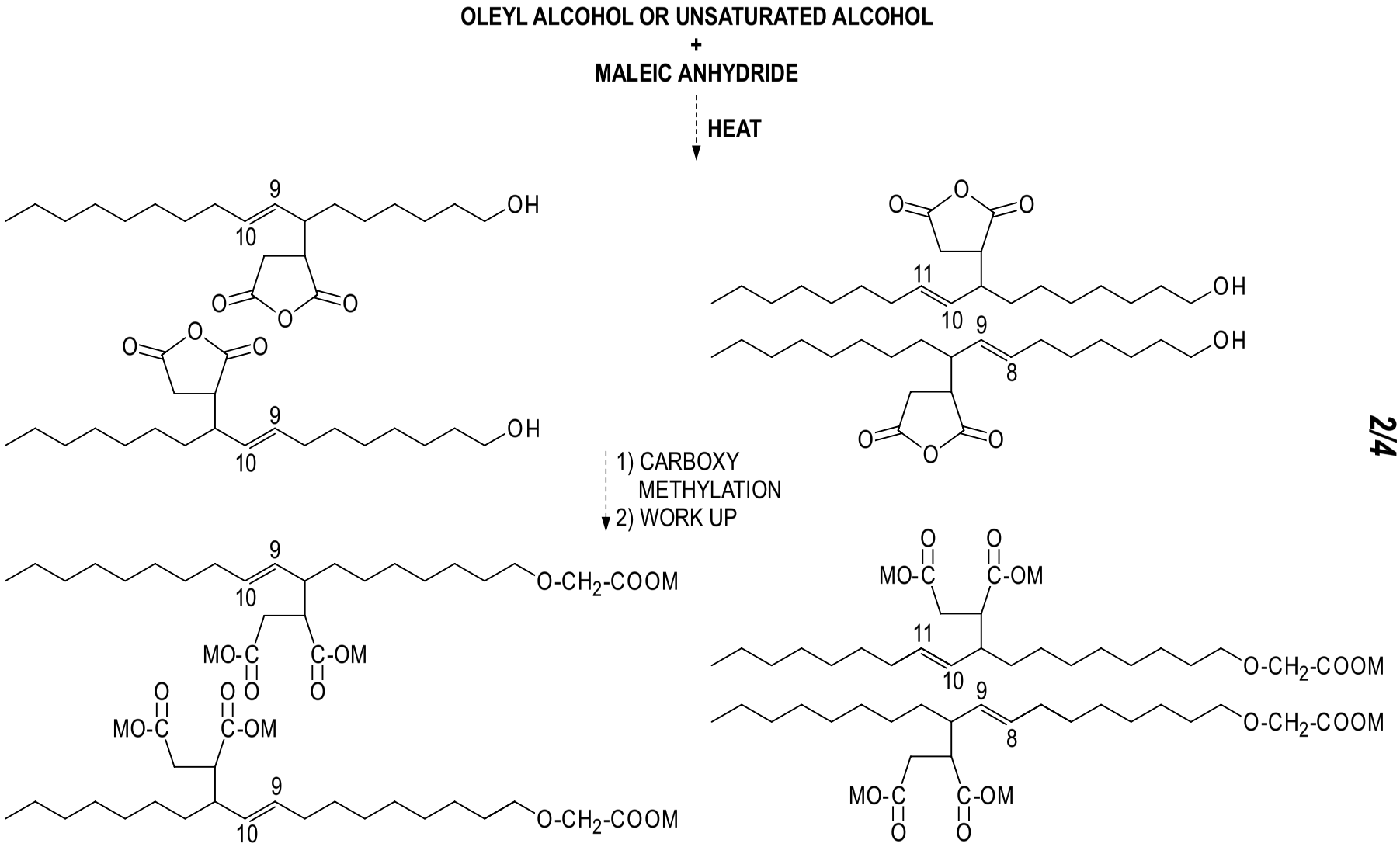
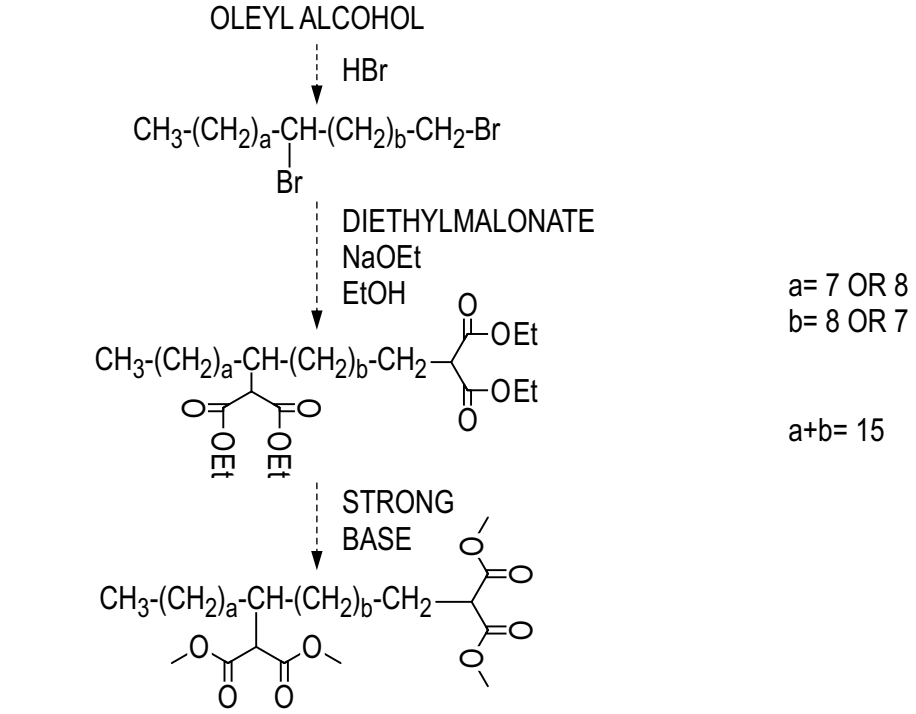
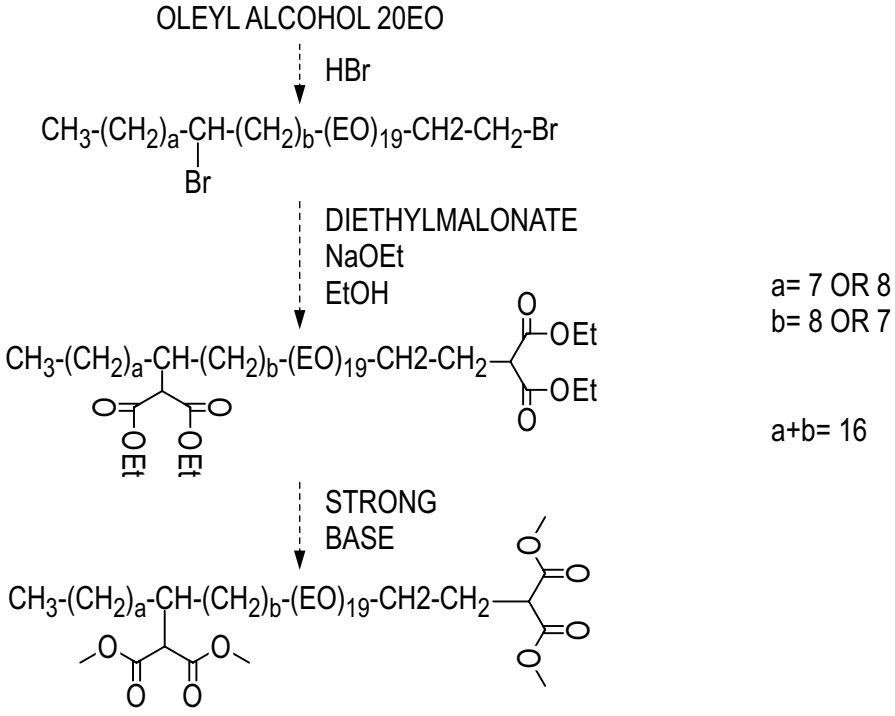

OLEYL ALCOHOL OR UNSATURATED ALCOHOL
+
MALEIC ANHYDRIDE
HEAT
1) CARBOXY METHYLATION
2) WORK UP
OH
O-CH2-COOM
MO-C
C-OM

FIG. 2



OLEYL BASED POLYCARBOXYLATE SURFACTANT

FIG. 3A



ETHOXYLATED OLEYL BASED POLYCARBOXYLATE SURFACTANT

FIG. 3B

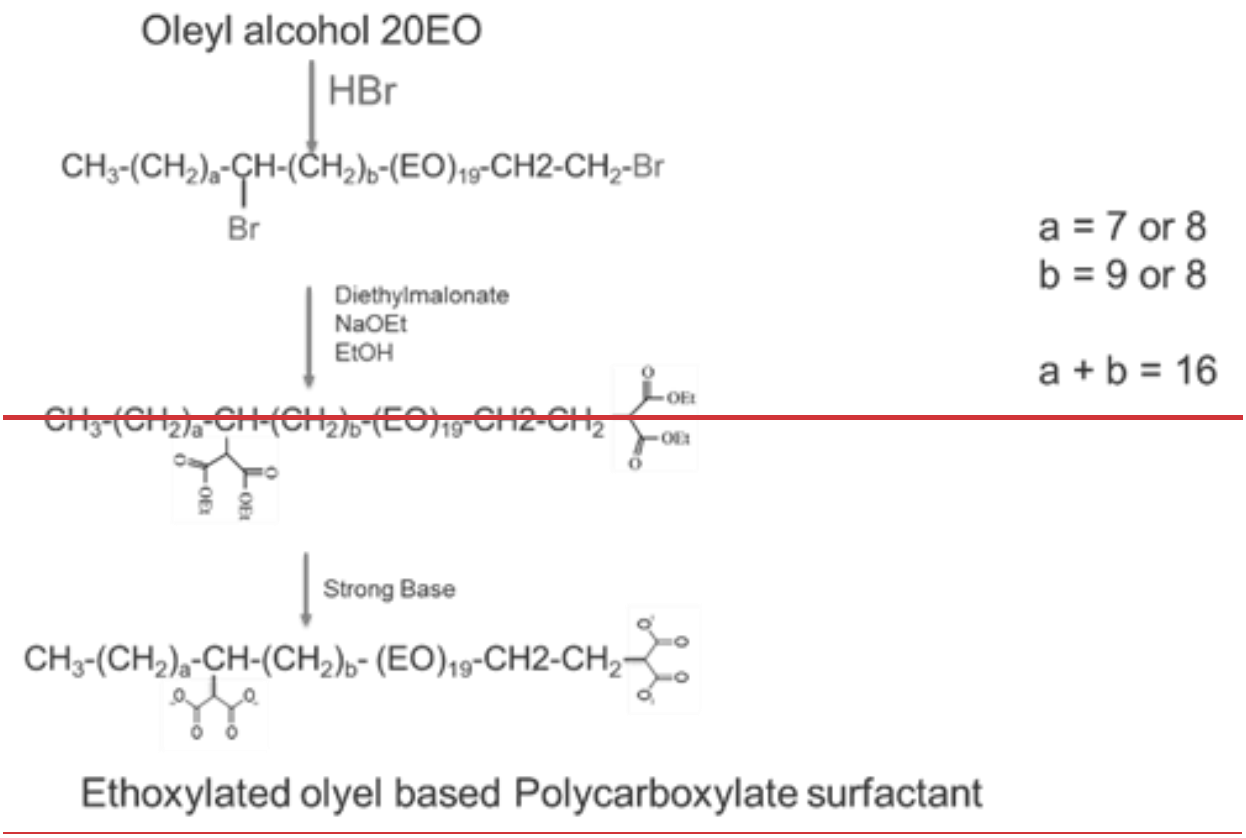


FIGURE 3B

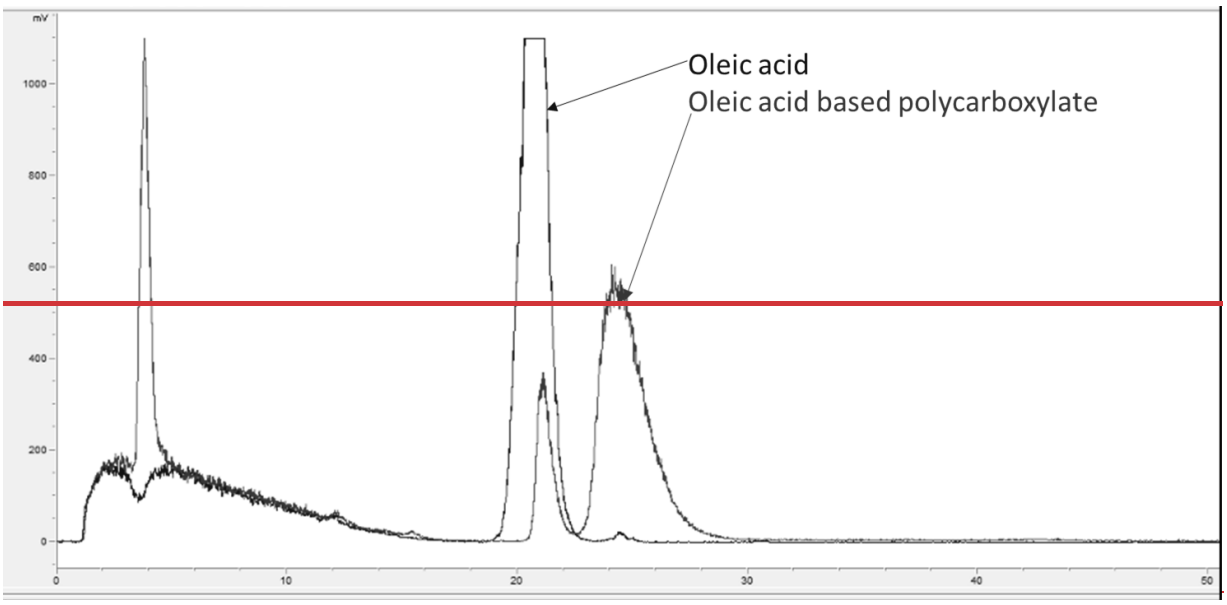


FIGURE 4

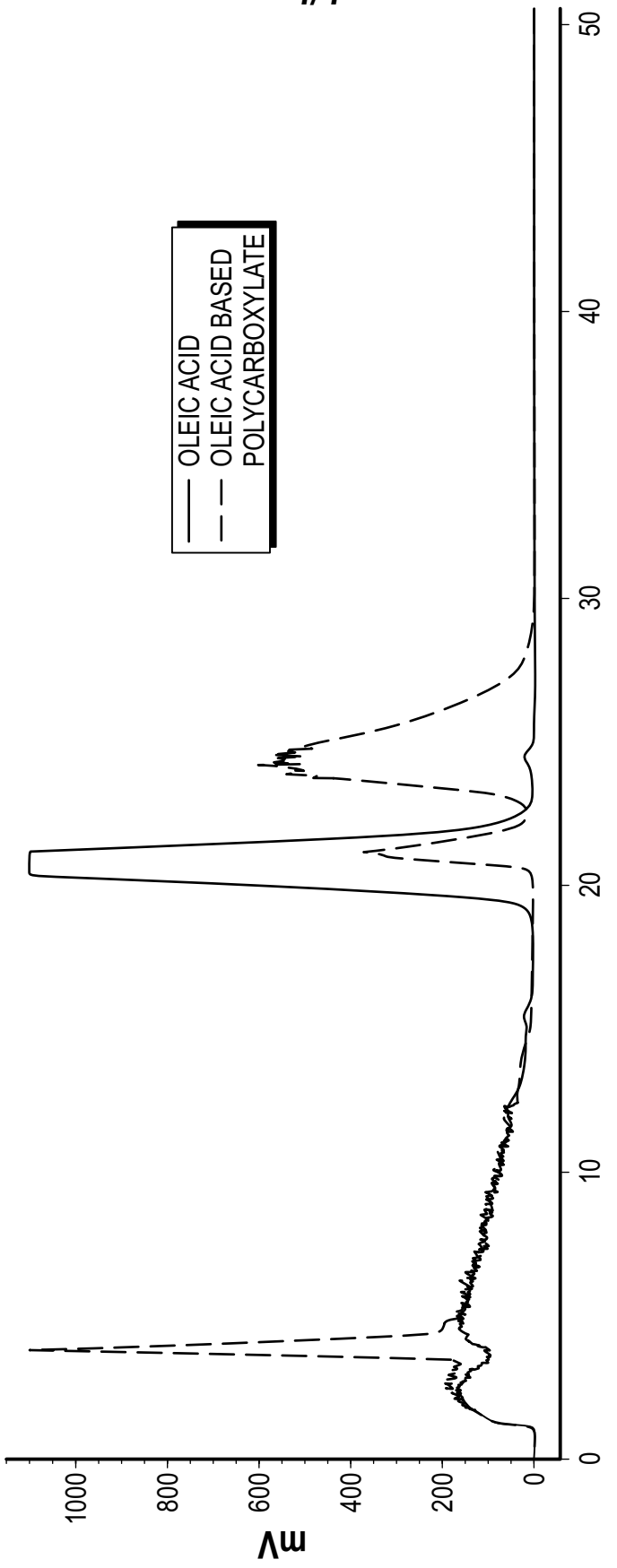

OLEIC ACID
OLEIC ACID BASED POLYCARBOXYLATE
mV
1000
800
600
400
200
0
0
10
20
30
40
50

FIG. 4