FIG. 1

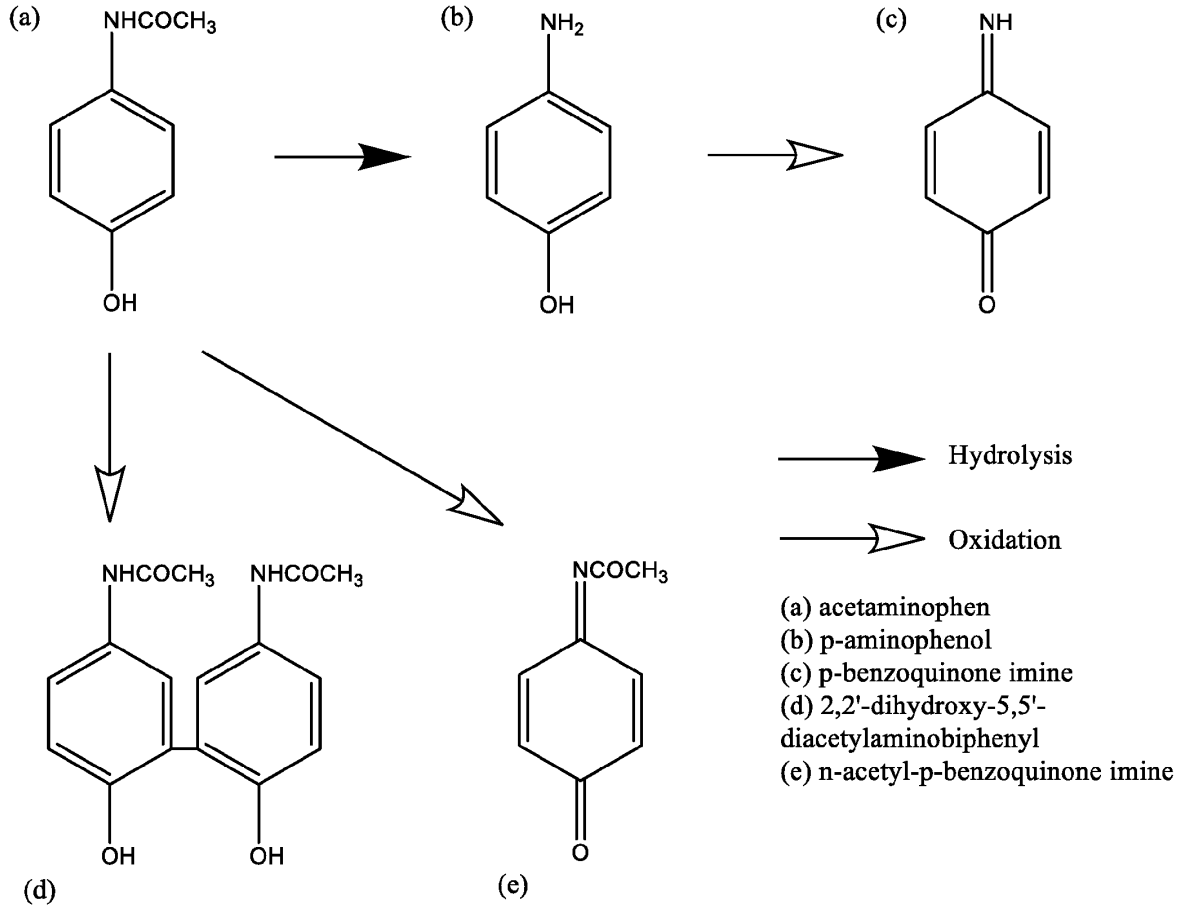

(a)
NHCOCH3
OH
(b)
NH2
OH
(c)
NH
O
Hydrolysis
Oxidation
NHCOCH3
NHCOCH3
OH
OH
(d)
NCOCH3
O
(e)
(a) acetaminophen
(b) p-aminophenol
(c) p-benzoquinone imine
(d) 2,2'-dihydroxy-5,5'-diacetylaminobiphenyl
(e) n-acetyl-p-benzoquinone imine

FIG. 2

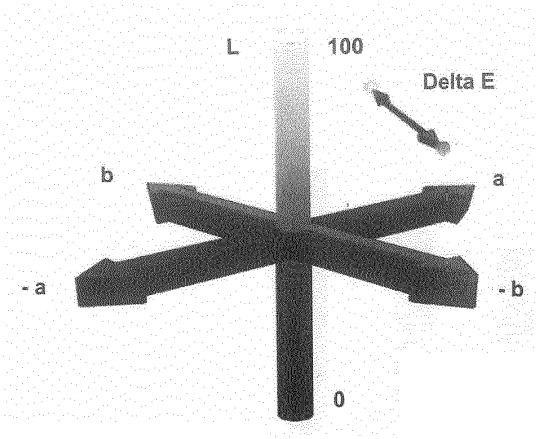
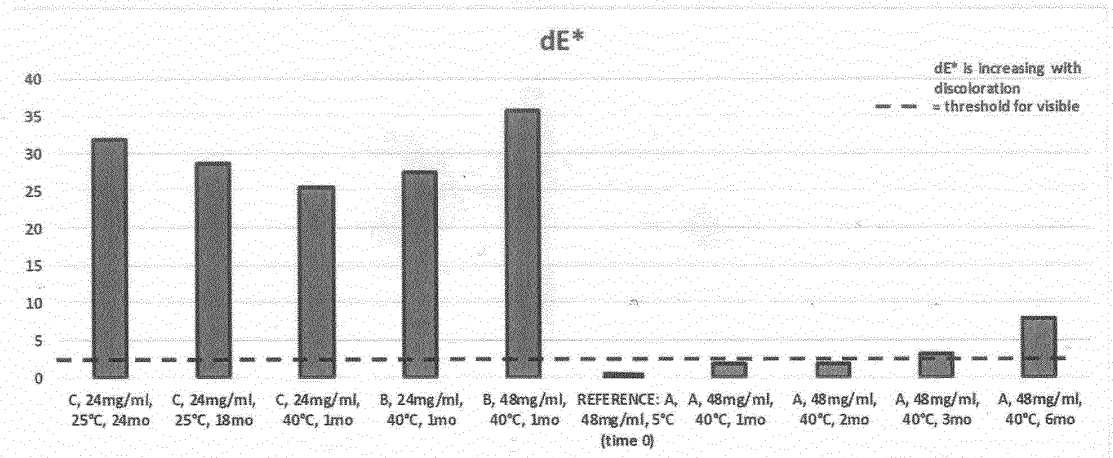


FIG. 3



First color measurements to compare Formulation A samples (48mg/ml) with Formulation B samples (24 and 48mg/ml) and Formulation C samples (24mg/ml) over a storage time of maximum 6 months (6M) at different temperature conditions

FIG. 4A

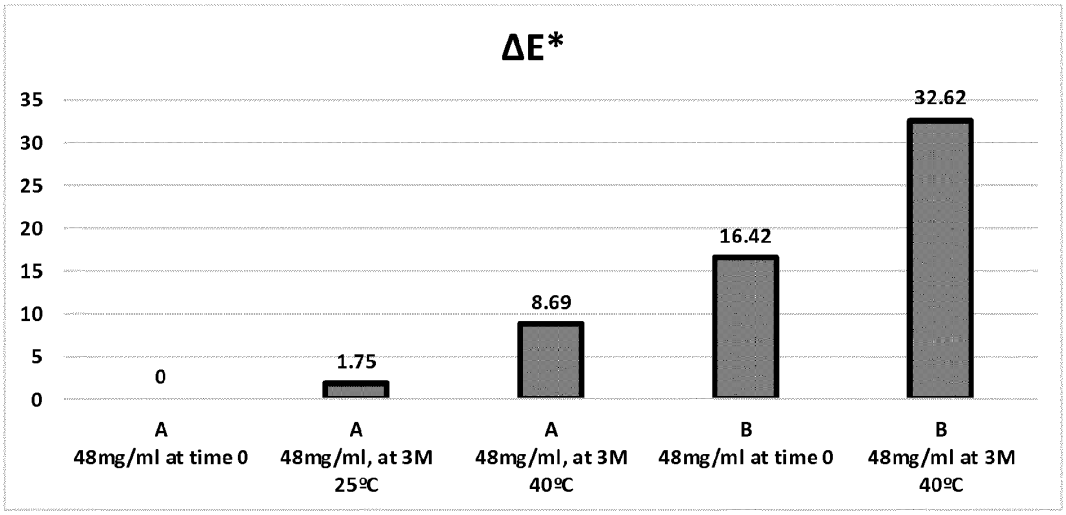

ΔE*
35
30
25
20
15
10
5
0
0
1.75
8.69
16.42
32.62
A 48mg/ml at time 0
A 48mg/ml, at 3M 25ºC
A 48mg/ml, at 3M 40ºC
B 48mg/ml at time 0
B 48mg/ml at 3M 40ºC

FIG. 4B

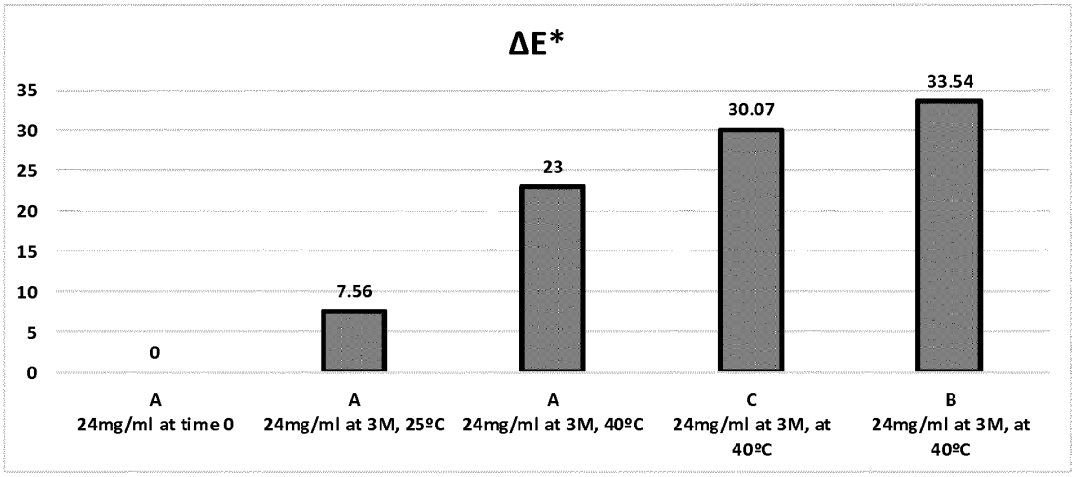

ΔE*
35
30
25
20
15
10
5
0
0
7.56
23
30.07
33.54
A 24mg/ml at time 0
A 24mg/ml at 3M, 25ºC
A 24mg/ml at 3M, 40ºC
C 24mg/ml at 3M, at 40ºC
B 24mg/ml at 3M, at 40ºC

FIG. 5

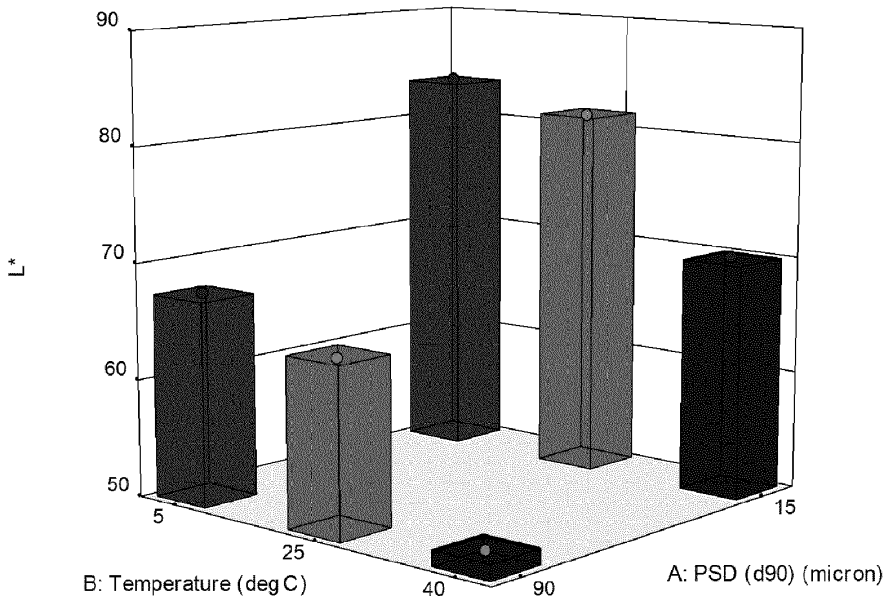

90
80
70
60
50
L*
5
25
40
B: Temperature (deg C)
90
15
A: PSD (d90) (micron)

FIG. 6

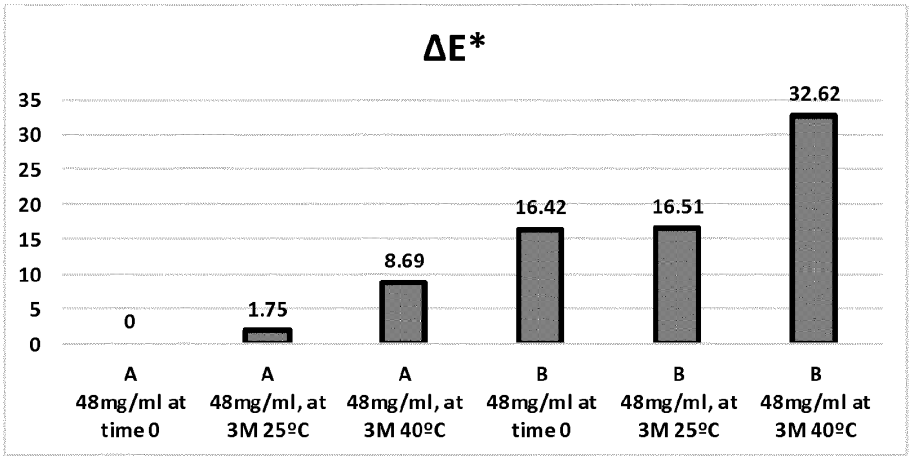
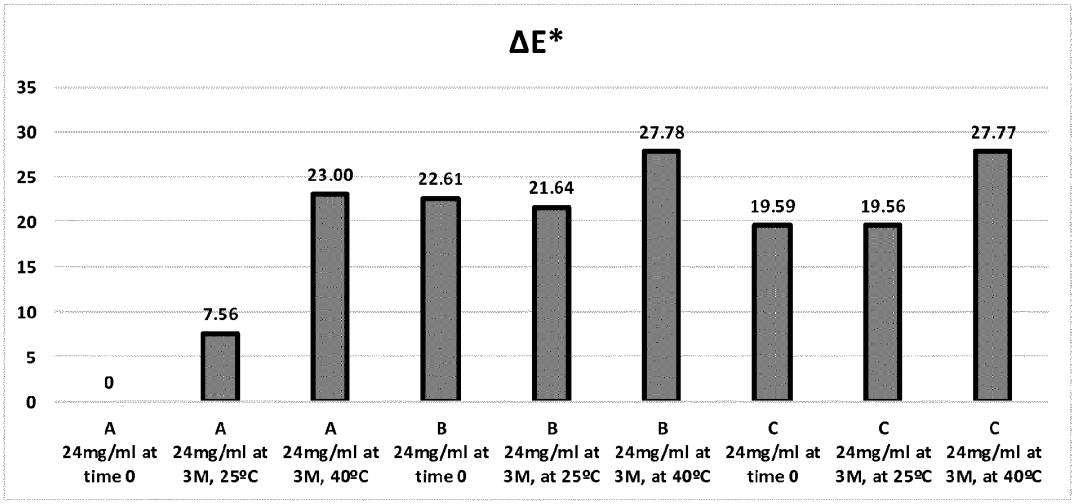

ΔE*
35
30
25
20
15
10
5
0
0
1.75
8.69
16.42
16.51
32.62
A 48mg/ml at time 0
A 48mg/ml, at 3M 25ºC
A 48mg/ml, at 3M 40ºC
B 48mg/ml at time 0
B 48mg/ml, at 3M 25ºC
B 48mg/ml at 3M 40ºC

FIG. 7


ΔE*
35
30
25
20
15
10
5
0
0
7.56
23.00
22.61
21.64
27.78
19.59
19.56
27.77
A 24mg/ml at time 0
A 24mg/ml at 3M, 25ºC
A 24mg/ml at 3M, 40ºC
B 24mg/ml at time 0
B 24mg/ml at 3M, at 25ºC
B 24mg/ml at 3M, at 40ºC
C 24mg/ml at time 0
C 24mg/ml at 3M, at 25ºC
C 24mg/ml at 3M, at 40ºC