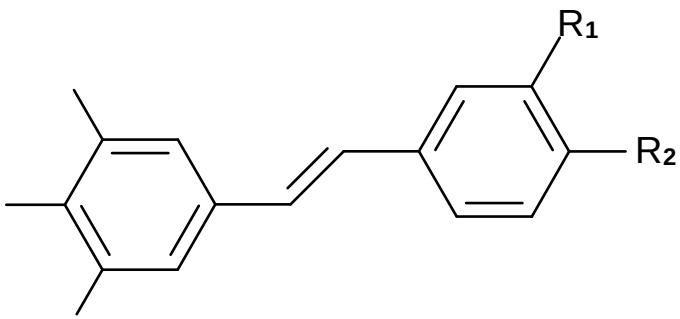
FIGURE 1



Compound	R_1	R_2	log(P)	τ (ps)	ϕ	λ_{max} (ex)	λ_{max} (em)
E-CA4	-OH	-OMe	3.466	490	0.15	334	390
E-CA4F	-F	-OMe	4.275	810	0.29	332	392
E-CNCA4	-H	-CN	3.882	707	0.15	343	468
E-DMACA4	-H	$-N(Me)_2$	4.229	360	---	328	450
E-ACA4	$-NH_2$	-OMe	3.595	4,800	0.28	355	465

FIGURE 2

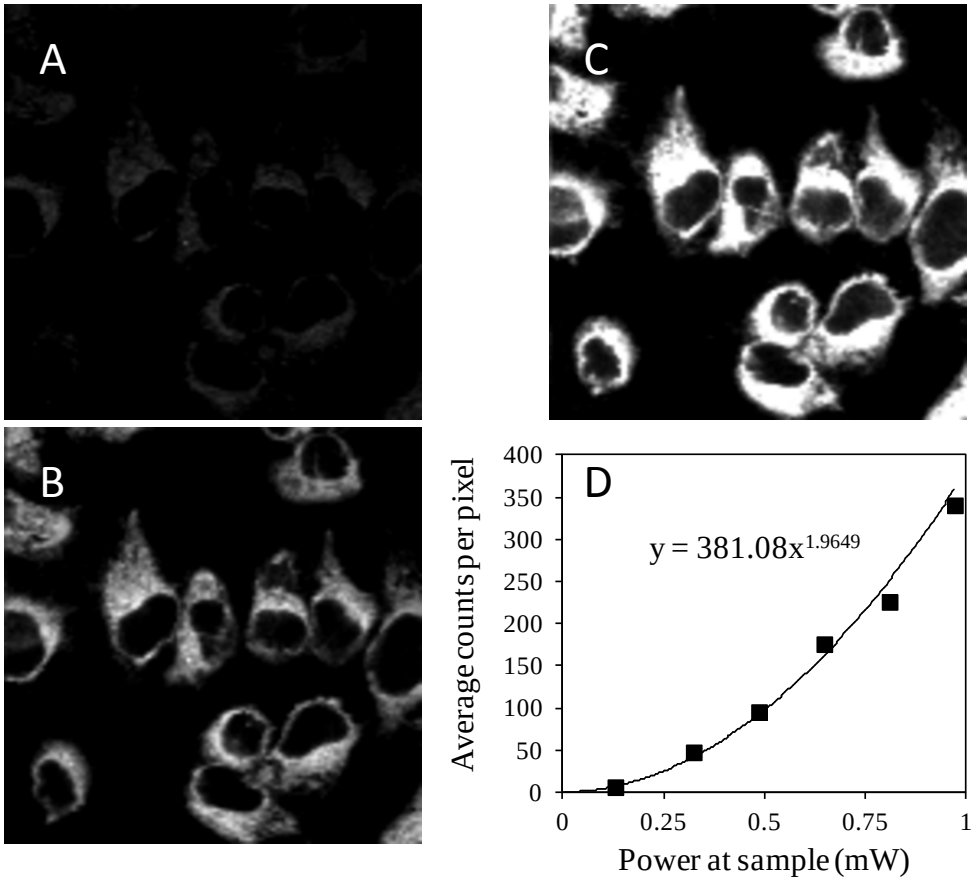

A
B
C
D
y = 381.08x^1.9649
Average counts per pixel
Power at sample (mW)
0
50
100
150
200
250
300
350
400
0
0.25
0.5
0.75
1

FIGURE 3

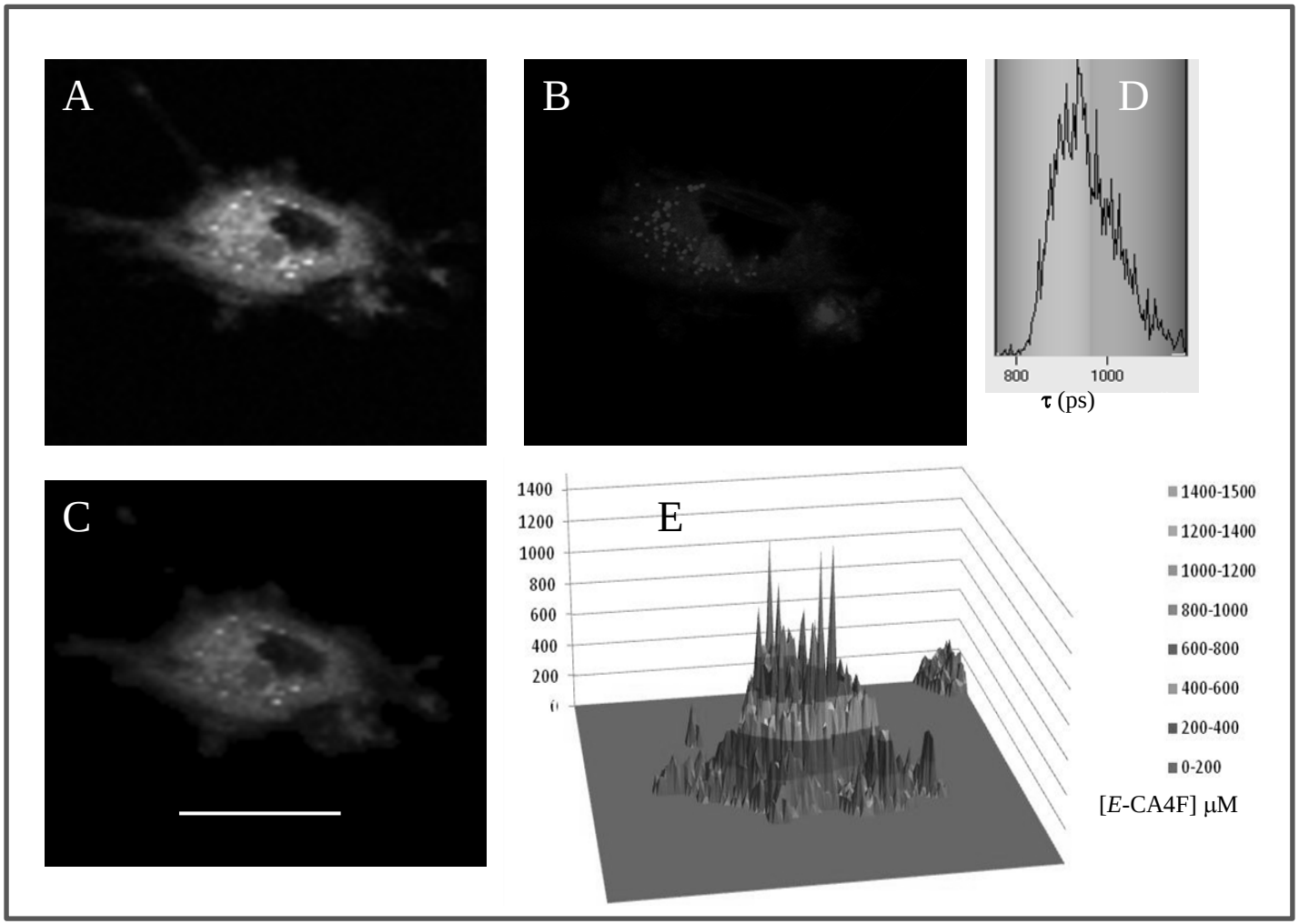

A
B
D
800
1000
τ (ps)
C
E
1400
1200
1000
800
600
400
200
1400-1500
1200-1400
1000-1200
800-1000
600-800
400-600
200-400
0-200
[*E*-CA4F] μM

FIGURE 4

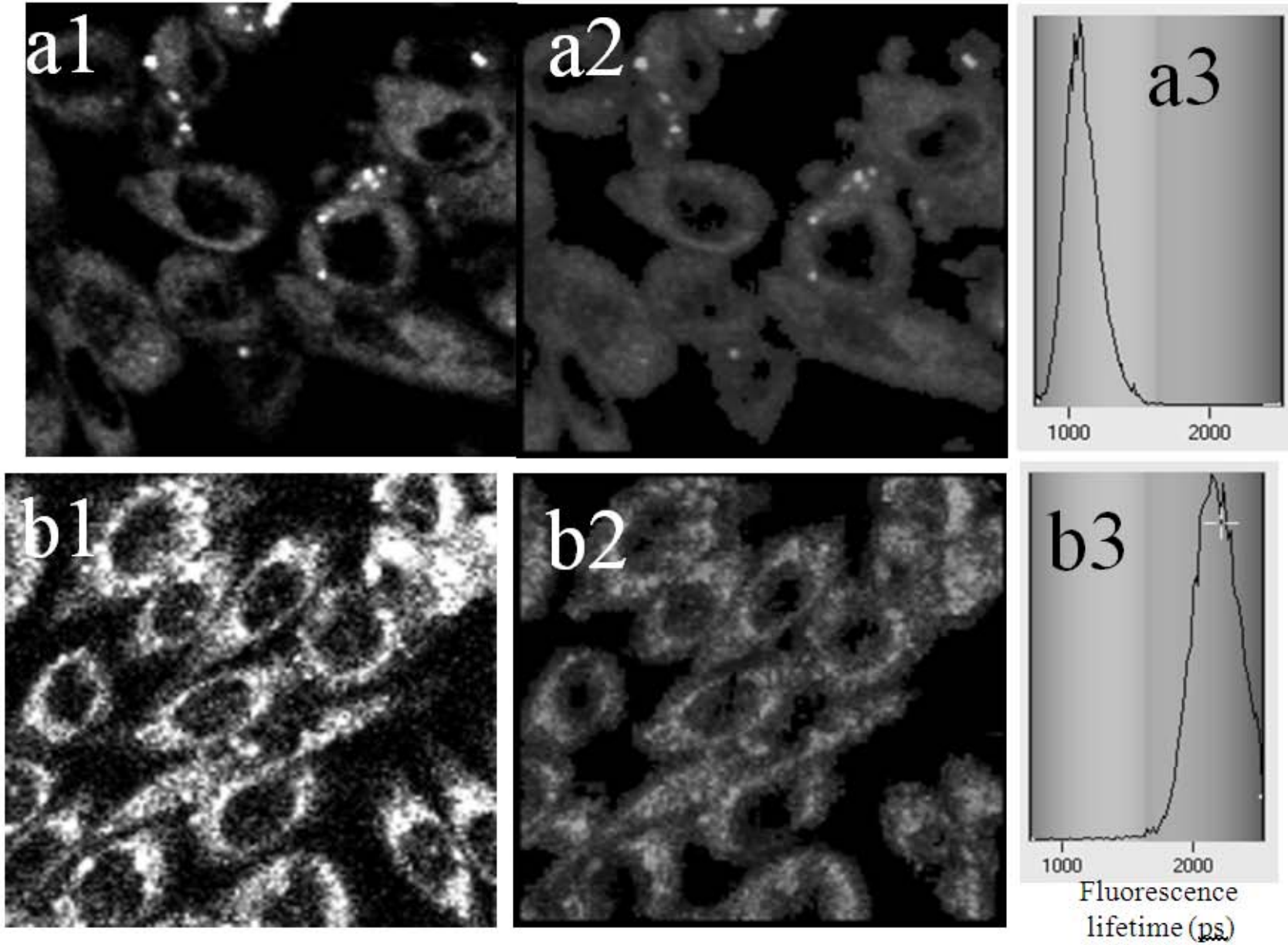

a1
a2
a3
1000
2000
b1
b2
b3
1000
2000
Fluorescence
lifetime (ps)

FIGURE 5

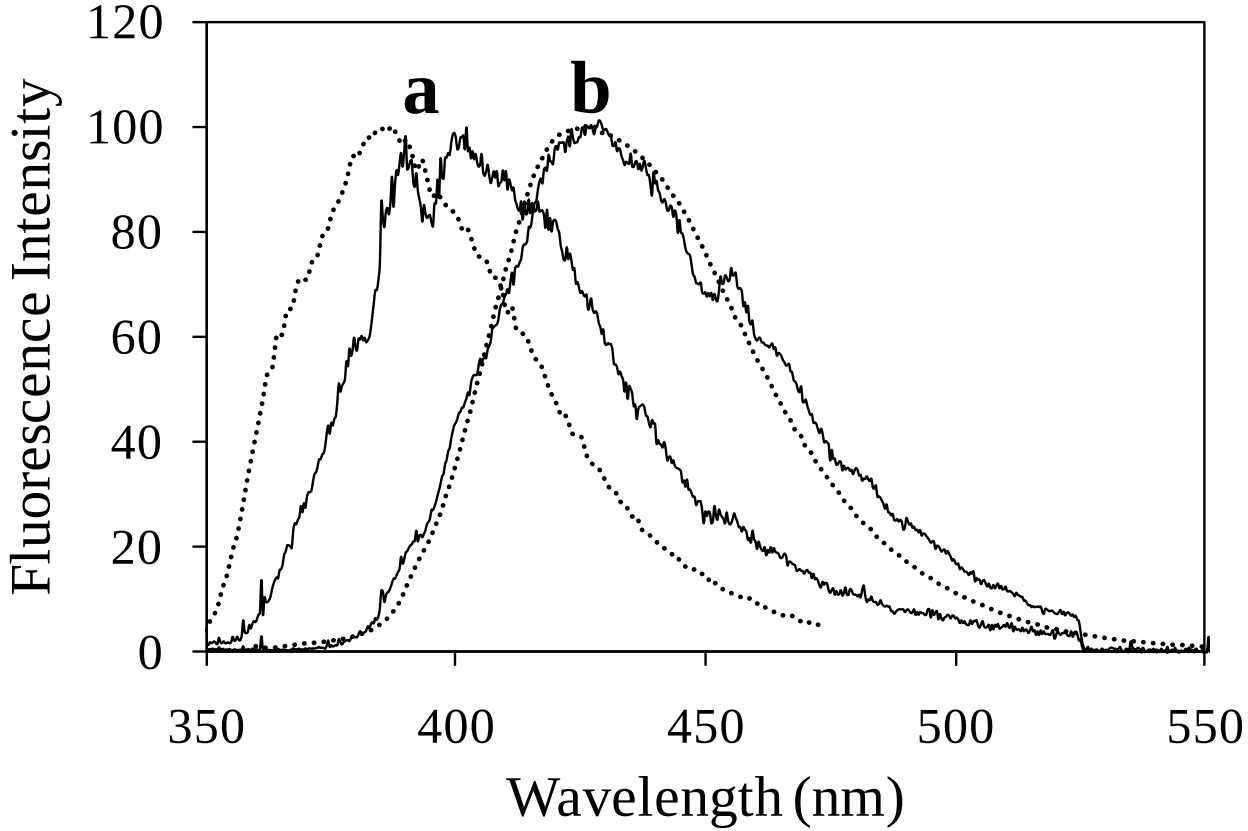

a
b
120
100
80
60
40
20
0
Fluorescence Intensity
350
400
450
500
550
Wavelength (nm)

FIGURE 6

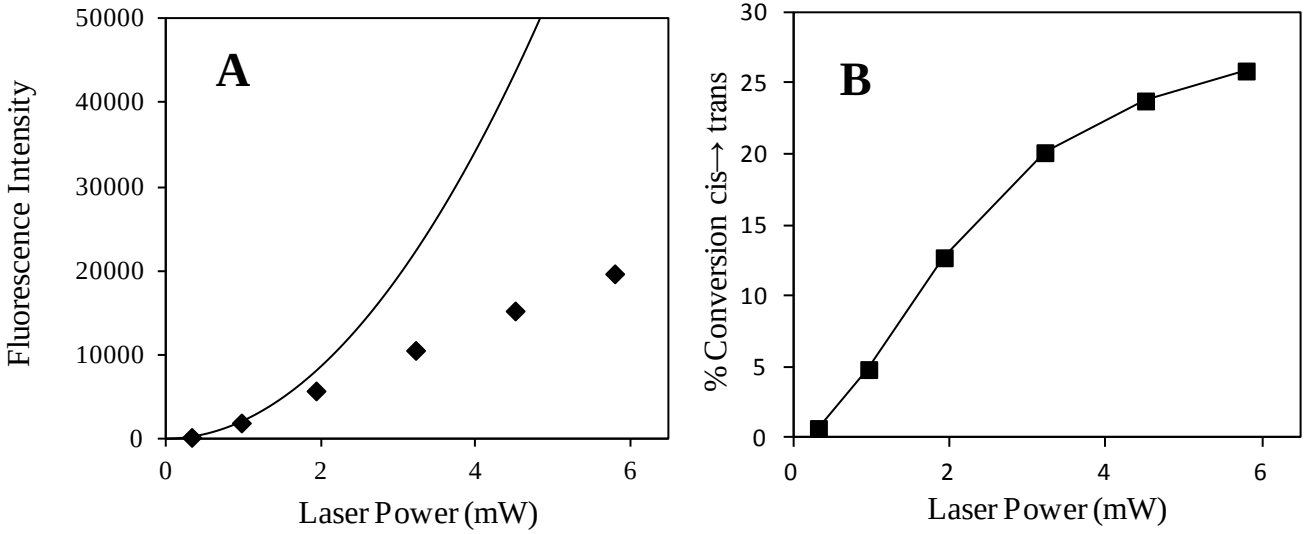
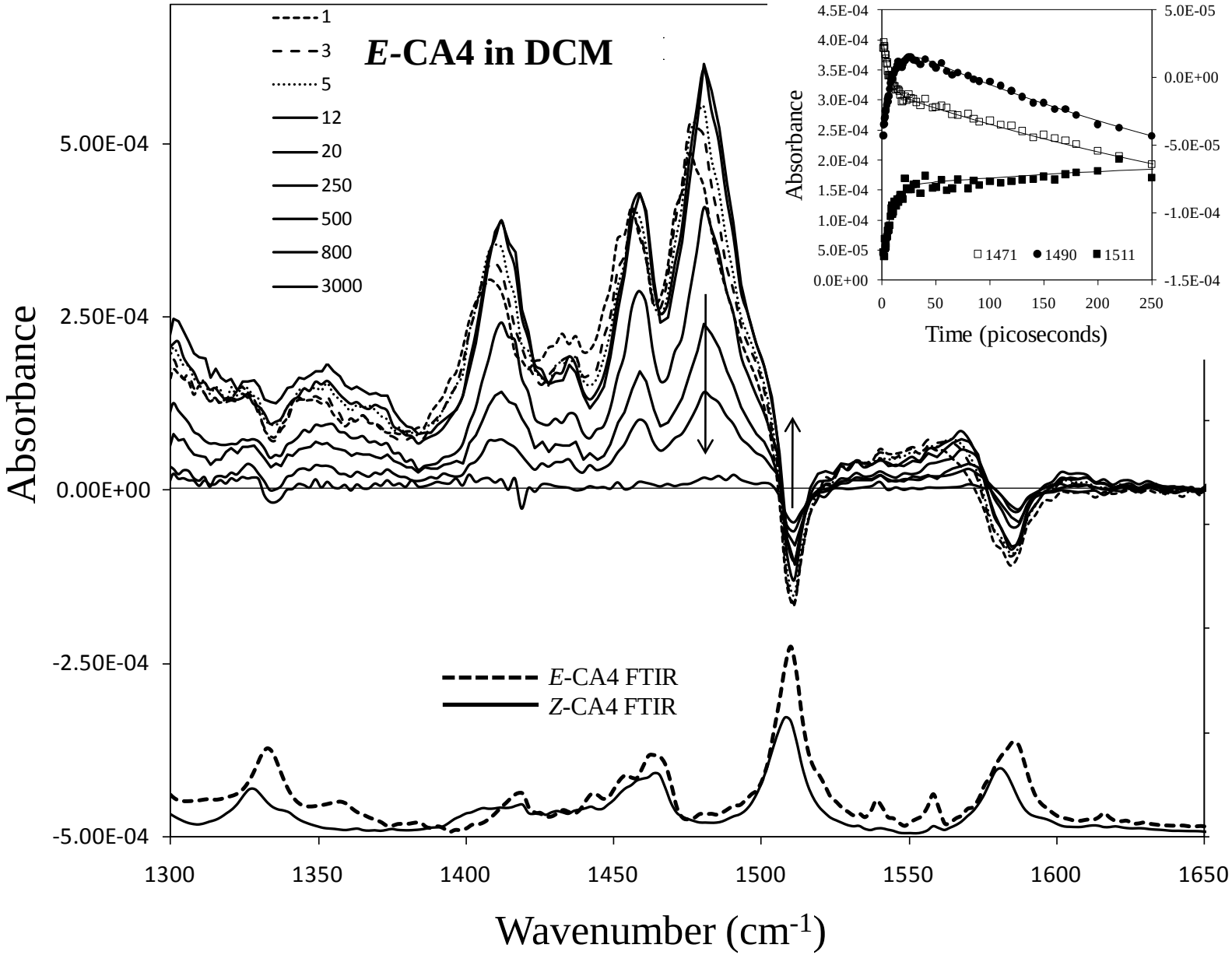

A
Fluorescence Intensity
50000
40000
30000
20000
10000
0
0
2
4
6
Laser Power (mW)
B
% Conversion cis→ trans
30
25
20
15
10
5
0
0
2
4
6
Laser Power (mW)

FIGURE 7


E-CA4 in DCM
1
3
5
12
20
250
500
800
3000
5.00E-04
2.50E-04
0.00E+00
-2.50E-04
-5.00E-04
Absorbance
1300
1350
1400
1450
1500
1550
1600
1650
Wavenumber (cm-1)
E-CA4 FTIR
Z-CA4 FTIR
4.5E-04
4.0E-04
3.5E-04
3.0E-04
2.5E-04
2.0E-04
1.5E-04
1.0E-04
5.0E-05
0.0E+00
5.0E-05
0.0E+00
-5.0E-05
-1.0E-04
-1.5E-04
Absorbance
0
50
100
150
200
250
Time (picoseconds)
1471
1490
1511

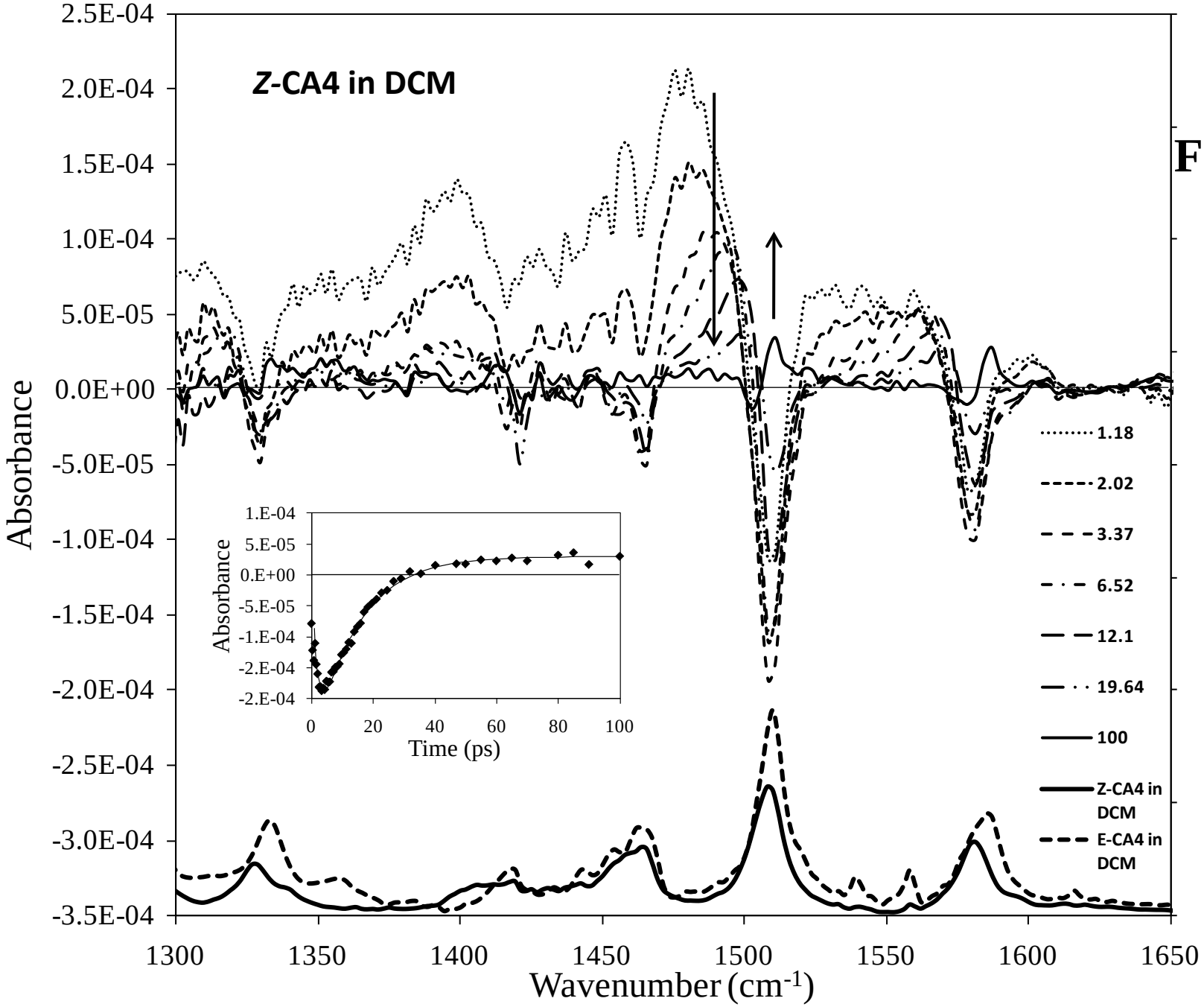

Z-CA4 in DCM
Absorbance
Wavenumber (cm-1)
2.5E-04
2.0E-04
1.5E-04
1.0E-04
5.0E-05
0.0E+00
-5.0E-05
-1.0E-04
-1.5E-04
-2.0E-04
-2.5E-04
-3.0E-04
-3.5E-04
1300
1350
1400
1450
1500
1550
1600
1650
1.18
2.02
3.37
6.52
12.1
19.64
100
Z-CA4 in DCM
E-CA4 in DCM
Absorbance
Time (ps)
1.E-04
5.E-05
0.E+00
-5.E-05
-1.E-04
-2.E-04
-2.E-04
0
20
40
60
80
100

FIGURE 8