

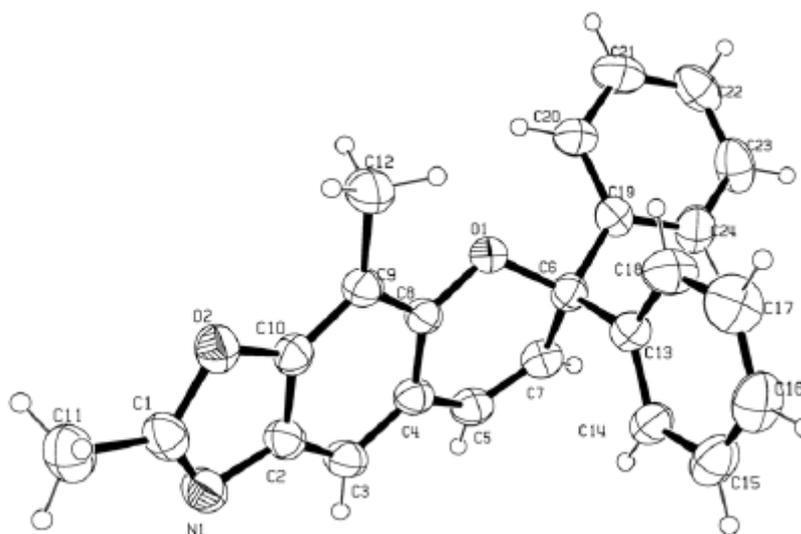
New photochromes equipped with positively charged ammonium fragments

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Table S1 X-ray data for compound **4**.

Parameter	4
Empirical formular	C ₂₄ H ₁₉ NO ₂
Molecular weight	353.4
Crystal system	monoclinic
Space group	P2 ₁ /n
Crystal size, mm ²	0.2×0.15×0.15
a, Å	8.5061(2)
b, Å	16.8993(4)
c, Å	13.7042(3)
α,*	90
β,*	107.827(1)
γ,*	90
V, Å ³	1875.35(7)
Z	4
d _{calc} g cm ⁻³	1.252
μ, mm ⁻¹	0.079
F(000)	744
θ range,*	2.79-28.72
Observed reflections	17678
Independent reflections	4679
R _{int}	0.11
Reflections [<i>l</i> >2σ(<i>l</i>)]	2424
Parameters	244
GDF	1.077
R [<i>l</i> >2σ(<i>l</i>)]	
R	0.0713
wR ₂	0.1598
Final R	
R	0.1488
wR ₂	0.2168

Table S2 Interatomic distances (d) and angles (ω) in structure of chromene **4**.



Bond			d (Å)	Bond			d (Å)
C1	N1		1.282(4)	C6	C7		1.502(4)
C1	O2		1.381(3)	C6	C19		1.525(4)
C1	C11		1.476(4)	C6	C13		1.537(3)
C2	C3		1.378(4)	C8	O1		1.372(3)
C2	C10		1.382(4)	C8	C9		1.393(4)
C2	N1		1.408(4)	C9	C10		1.375(4)
C3	C4		1.395(4)	C9	C12		1.495(4)
C4	C8		1.405(3)	C10	O2		1.383(3)
C4	C5		1.458(4)	C13	C14		1.377(4)
C5	C7		1.325(4)	C13	C18		1.378(4)
C6	O1		1.455(3)	C9	C10		1.375(4)

Angle				ω (°)	Angle				ω (°)
N1	C1	O2		115.0(3)	C7	C6	C13		113.2(2)
N1	C1	C11		128.8(3)	C19	C6	C13		110.3(2)
O2	C1	C11		116.2(3)	C5	C7	C6		120.1(3)
C3	C2	C10		119.9(3)	O1	C8	C9		116.3(2)
C3	C2	N1		131.6(3)	O1	C8	C4		120.0(2)
C10	C2	N1		108.5(2)	C9	C8	C4		123.5(2)
C2	C3	C4		117.6(2)	C10	C9	C12		124.2(3)
C3	C4	C8		120.0(3)	C8	C9	C12		122.7(2)
C3	C4	C5		123.4(2)	C9	C10	C2		125.8(3)
C7	C5	C4		120.3(2)	C9	C10	O2		126.7(2)
O1	C6	C7		108.9(2)	C2	C10	O2		107.5(2)
O1	C6	C19		105.6(2)	C1	N1	C2		104.9(2)
C7	C6	C19		111.0(2)	C8	O1	C6		116.41(18)
O1	C6	C13		107.5(2)	C1	O2	C10		104.0(2)

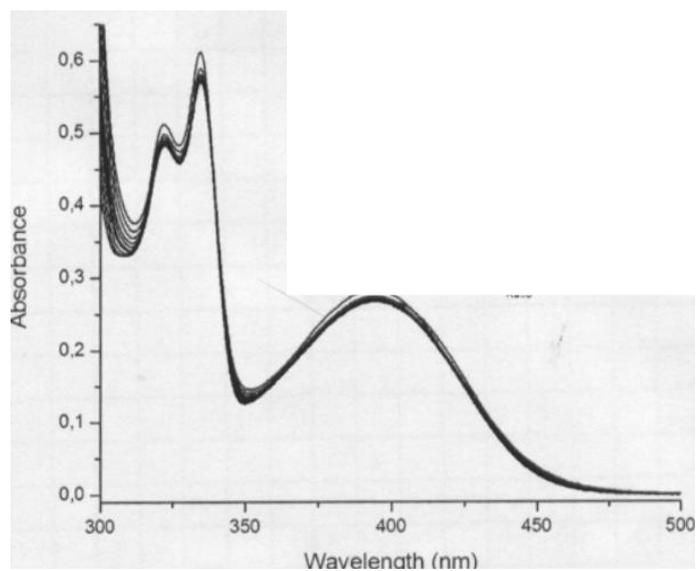


Figure S1 Changes in absorption spectra of **6** in MeCN upon irradiation with light at 313 nm.