

Table

Isomeric spirodienones	extent of isomerization (%)	
	(1) → (2)	(2) → (1)
(1a) and (2a): $R_1 = R_2 = R_3 = R = H$	100	0
(1b) and (2b): $R_1 = R_2 = R_3 = H$; $R = Cl$	100	0
(1c) and (2c): $R_1 = R_2 = H$; $R_3 = Me$; $R = Cl$	100	0
(1d) and (2d): $R_1 = R_2 = H$; $R_3 = pr^i$; $R = Cl$	90	0
(1e) and (2e): $R_1 = R_2 = bu^t$; $R_3 = H$; $R = Cl$	100	0
(1f) and (2f): $R_1 = R_3 = H$; $R_2 = bu^t$; $R = Cl$	90	0
(1g) and (2g): $R_1 = CN$; $R_2 = R_3 = H$; $R = Cl$	95	0
(1h) and (2h): $R_1 = OMe$; $R_2 = R_3 = H$; $R = Cl$	25	75
(1i) and (2i): $R_1 = Br$; $R_2 = R_3 = H$; $R = Cl$	75	25

The photorearrangement could be visualized as occurring through the intermediacy of spirocyclohexadienone of the type (3) formed by initial β C-O cleavage. Further work, to have a deeper insight into its mechanism is under progress.

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