Improving the Description of the Optical Properties of Carotenoids by Tuning the Long-Range Corrected Functionals

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Molecule	E ₀₁	f	μ ₀₁ (Debye)				Electronic
	(eV)		Х	У	Z	Total	Configuration(%)
13- <i>cis</i> -β-carotene	2.44	2.83	17.47	-0.36	-0.14	17.48	HOMO→LUMO(94)
9- <i>cis</i> -β-carotene	2.45	3.65	19.76	1.37	-0.17	19.81	HOMO→LUMO(94)
phytofluene	3.42	2.50	13.27	3.96	0.45	13.86	HOMO→LUMO (98)
<i>trans</i> -β-carotene	2.43	3.92	20.62	0.87	-0.09	20.63	HOMO→LUMO(94)
zeaxanthin	2.37	4.10	21.15	2.69	0.13	21.33	HOMO→LUMO(94)