SUPPLEMENT

Absorbance spectra as measured in experiments where various SkQ ions were tested as antioxidants with cardiolipin liposomes. In the present study, we subjected liposomes made of cardiolipin to peroxidation and tracked the changes in the UV absorbance. Conjugated dienes that formed as a result of rearrangement of double bonds in the polyunsaturated fatty acid "tails" of the lipid upon oxidation showed a characteristic absorbance maximum at 234 nm; the kinetics of the absorbance change at this wavelength were used to characterize the antioxidant properties of the tested compounds (Figs. 5-8 of the article). However, the changes in A_{234} allow estimation of the kinetic parameters only semi-quantitatively, since not only the conjugated dienes of the lipids may absorb in this range, but also other substances present in the system, such as azo initiator and quinol antioxidants. Their absorbance also shifts during the course of the reaction, although the magnitude of these changes at 234 nm is quite small (see, for instance, the spectra of oxidized and reduced forms of SkQ1 [1]). Moreover, as the reaction proceeds, other products, particularly conjugated trienes, may accumulate [2]. For all the kinetic curves, as presented in the main text, we provide here the respective full UV spectra in the range of 210-300 nm (Figs. S1 and S2).

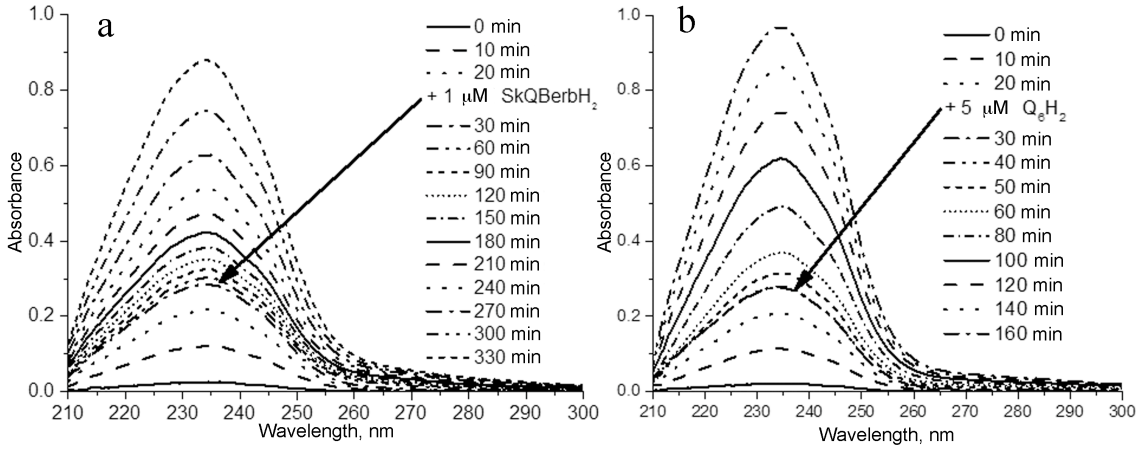

Fig. S1. Absorbance changes in the UV spectral range as measured in experiments with (a) 1 μM $SkQBerbH_2$, (b) 5 μM Q_6H_2, (c) 1 μM $decPQH_2$, (d) 1 μM $decUQH_2$ as antioxidants. Experimental conditions: 40°C, 50 μM MeO-AMVN, 100 μM liposomes of cardiolipin. The arrows indicate the moments of introduction of the antioxidants (30 min after start of the experiment).

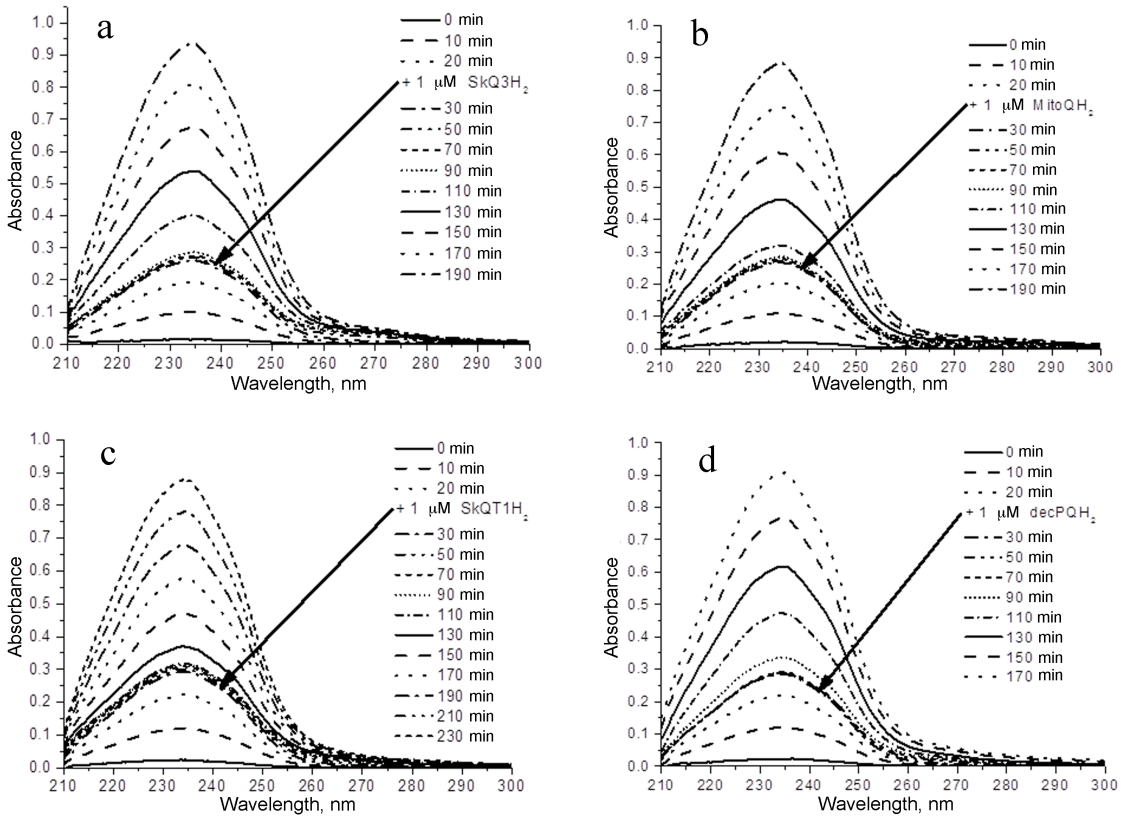

Fig. S2. Absorbance changes in the UV spectral range as measured in experiments with various quinols as antioxidants possessing triphenylphosphonium as the penetrating cation. The following concentrations of antioxidants were used: a) 1 μM $SkQ3H_2$; b) 1 μM $MitoQH_2$; c) 1 μM $SkQT1H_2$. Experimental conditions: 40°C, 50 μM MeO-AMVN, 100 μM liposomes of cardiolipin. The arrows indicate the moments of introduction of the antioxidants (30 min after start of the experiment).

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