

Supporting Information

Mitochondrial toxicity of organic arsenical: membrane permeability transition pore opening and respiratory dysfunction

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Scheme S1. The molecular structure of organic arsenical **MOPIMP**.

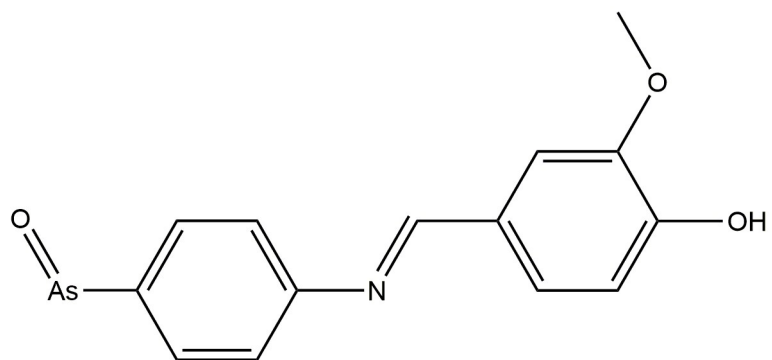
Figure S1. The collapse of membrane potential in isolated mitochondria.

Figure S2. The release of cytochrome *c* from isolated mitochondria treated with different concentrations of compound **MOPIMP**.

Figure S3. Increase of the mitochondrial membrane fluidity. After treated with compound **MOPIMP**, the drop of anisotropy *r* demonstrated the increase of membrane fluidity. The experiment was repeated more than three times.

Figure S4. The lipid peroxidation induced by compound **MOPIMP**.

Table S1. Influence of organic arsenical **MOPIMP** on mitochondrial metabolism parameters ^a



Scheme S1. The molecular structure of organic arsenical **MOPIMP**.

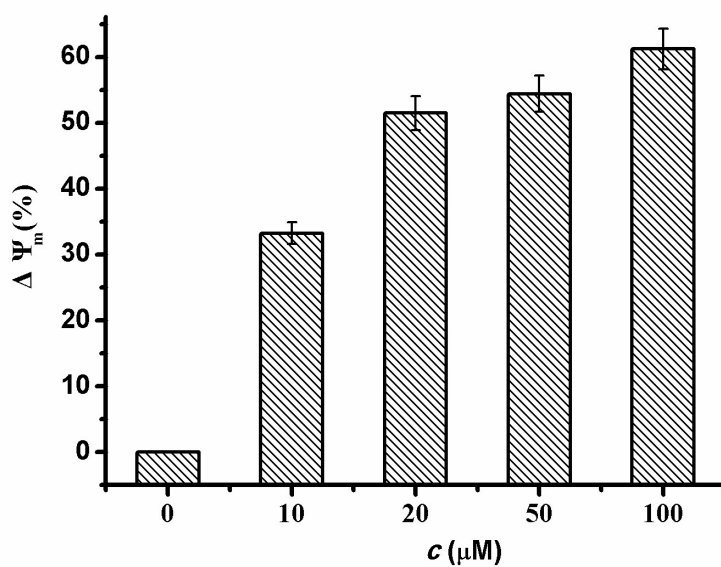


Figure S1. The collapse of membrane potential in isolated mitochondria. The ratio of recovery fluorescence intensity and decreased fluorescence intensity was shown in bar figure. The addition of compound **MOPIMP** decreased the isolated mitochondrial membrane potential obviously in a concentration-dependent way. The experiment was repeated more than twice.

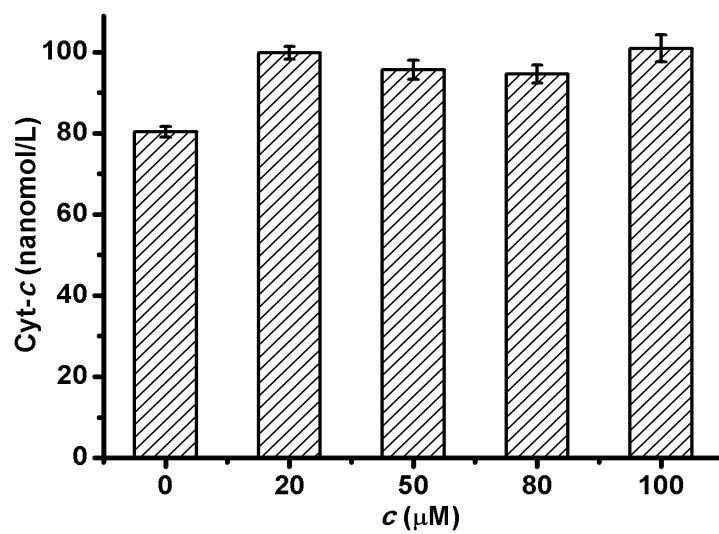


Figure S2. The release of cytochrome *c* from isolated mitochondria treated with different concentrations of compound **MOPIMP**. The treatment of compound **MOPIMP** increased the release of cytochrome *c*. The experiment was repeated more than twice.

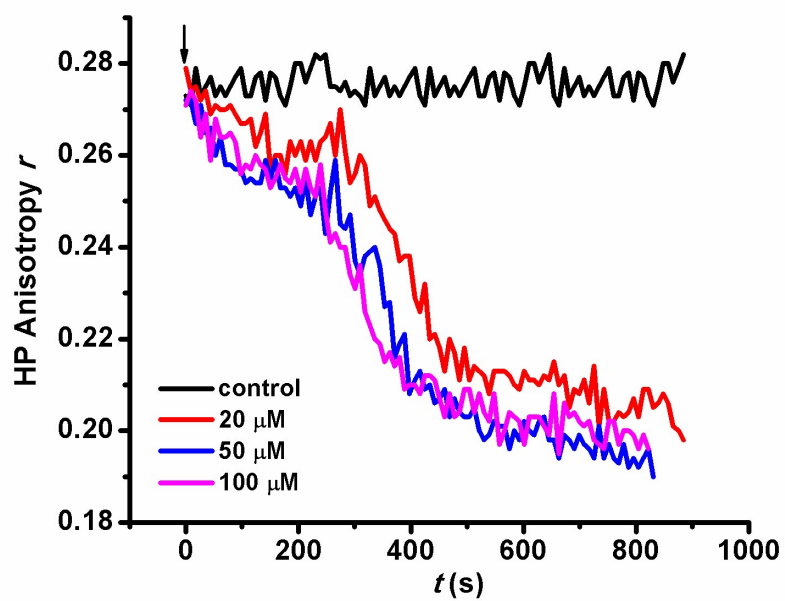


Figure S3. Increase of the mitochondrial membrane fluidity. After treated with compound **MOPIMP**, the drop of anisotropy r demonstrated the increase of membrane fluidity. The experiment was repeated more than three times.

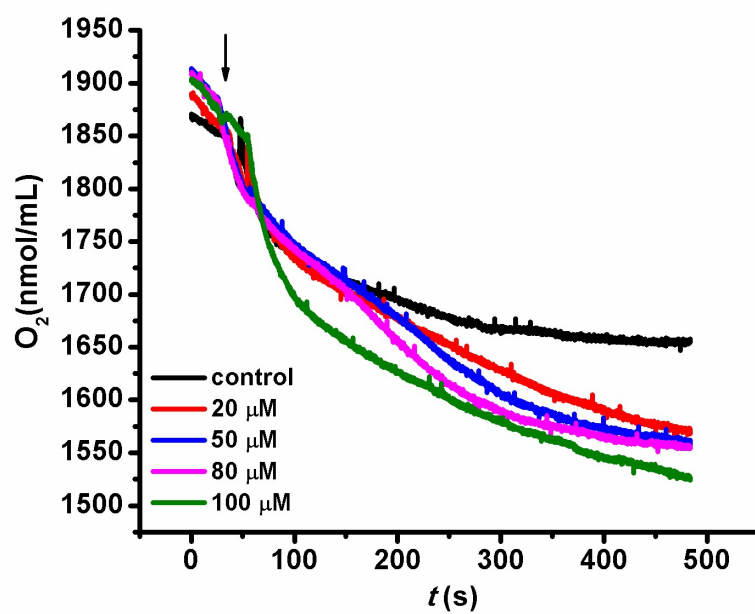


Figure S4. The lipid peroxidation induced by compound **MOPIMP**. The addition of compound **MOPIMP** stimulated the oxygen consumption in a dose-dependent manner, which reflected the occurrence of lipid peroxidation. The experiment was repeated more than three times.

Table S1. Influence of organic arsenical **MOPIMP** on mitochondrial metabolism parameters ^a

<i>c</i> (μM)	0	5	10	15	20
<i>k</i>₁ (10⁻³ min⁻¹)	5.86	4.28	4.55	3.26	2.88
R₁²	0.99	0.99	0.99	0.99	0.99
<i>k</i>₂ (10⁻³ min⁻¹)	0.85	0.15	0.85	-	-
R₂²	0.99	0.99	0.99	-	-
<i>k</i>₃ (10⁻³ min⁻¹)	-14.23	-8.55	-0.52	-0.51	-0.37
R₃²	0.99	0.99	0.99	0.99	0.99
<i>P</i>_m (W)	132.93	63.66	51.41	45.46	45.46
<i>t</i>_m (h)	59.26	69.11	38.36	50.77	65.21
<i>Q</i> (J)	11.91	12.30	9.27	7.39	4.16

^a *k*₁: rate constant in activity recovery phase ; *k*₂: rate constant in stationary increase phase; *k*₃: rate constant in decline phase; R: correlation coefficient; *P*_m: maximum power output; *t*_m: maximum power output time; *Q*: total heat output.