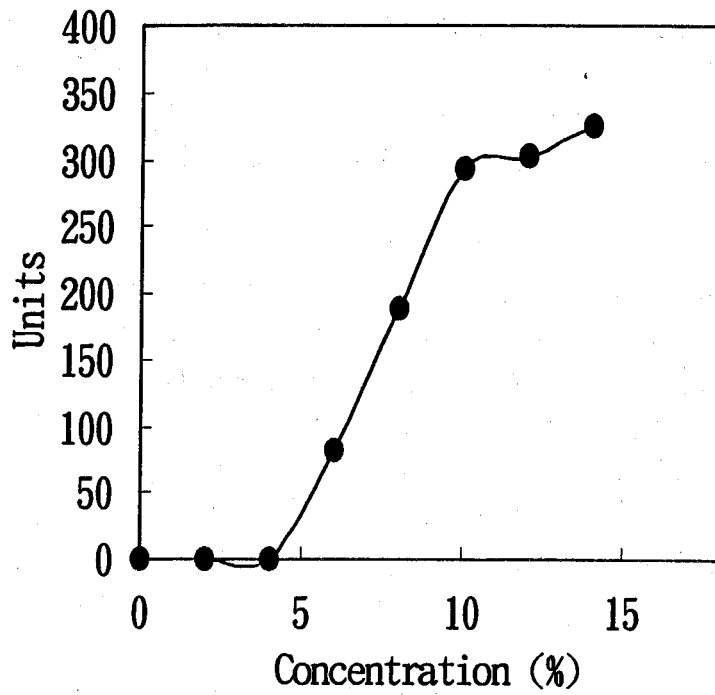
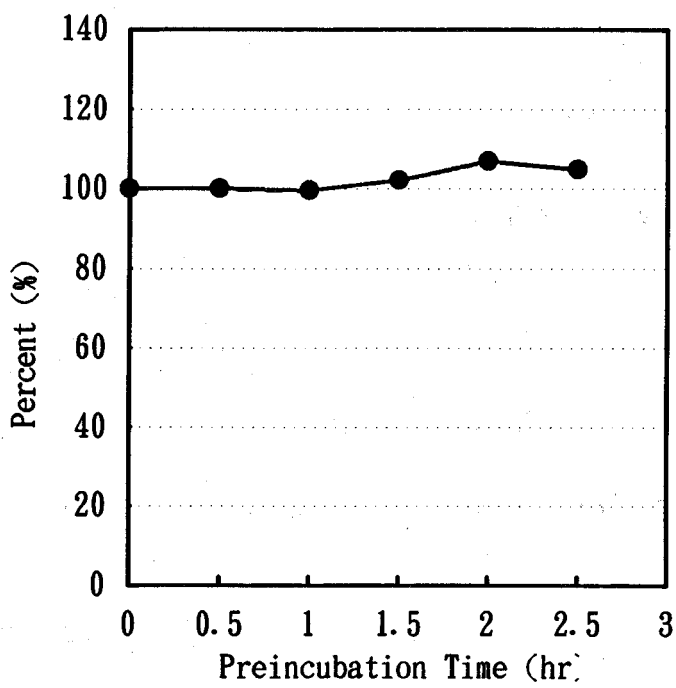


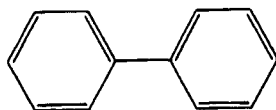
**Fig.1 S9 concentration dependence  
in metabolic activation with S9**



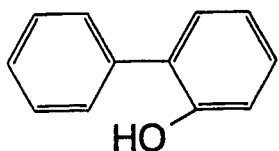
**Fig.2 The effect for the pretreatment time**



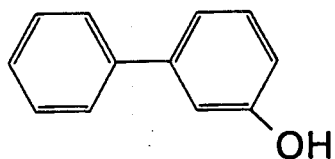
**Fig. 3 The structure of biphenyls**



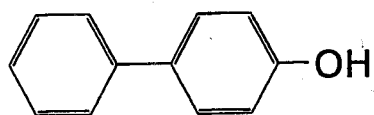
**Biphenyl**



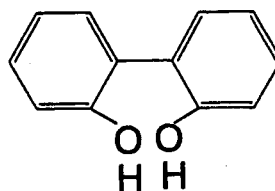
***o*-Hydroxybiphenyl**



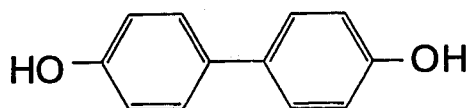
***m*-Hydroxybiphenyl**



***p*-Hydroxybiphenyl**

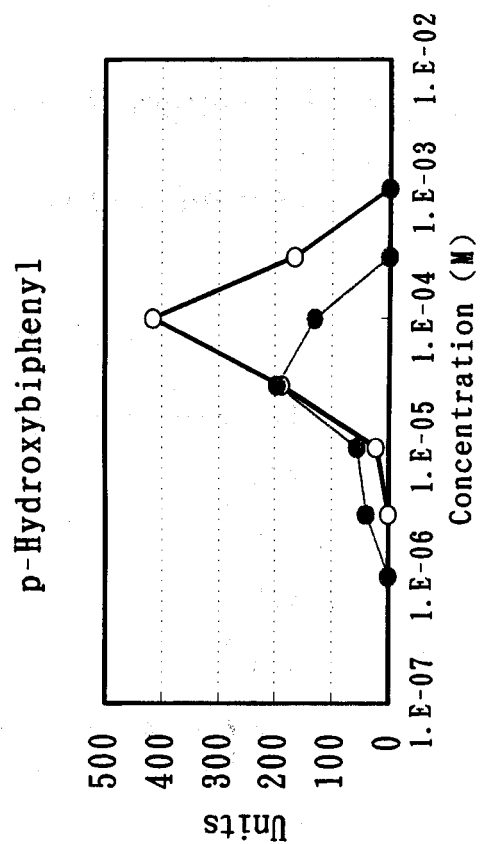
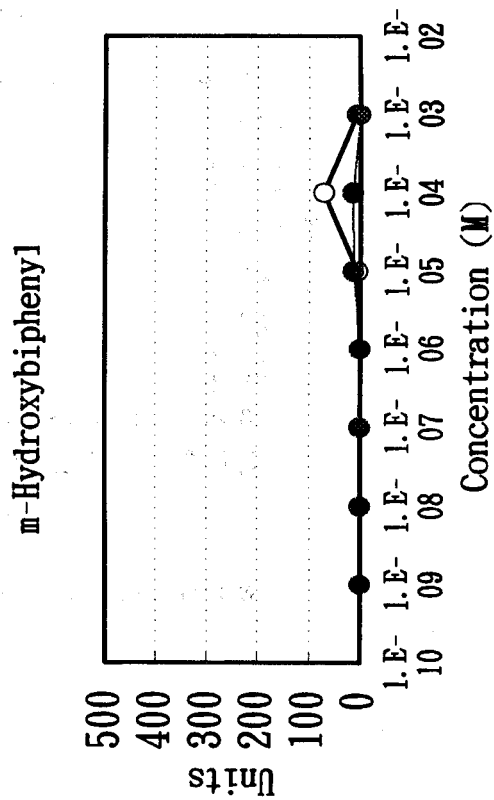
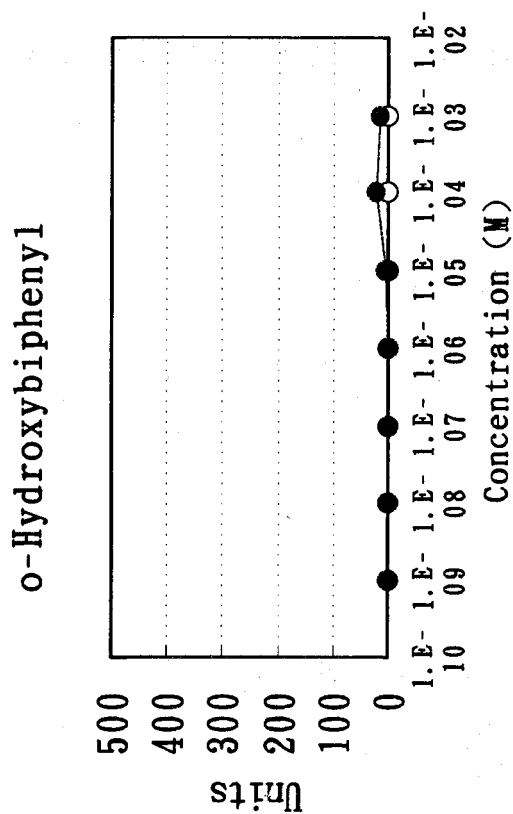
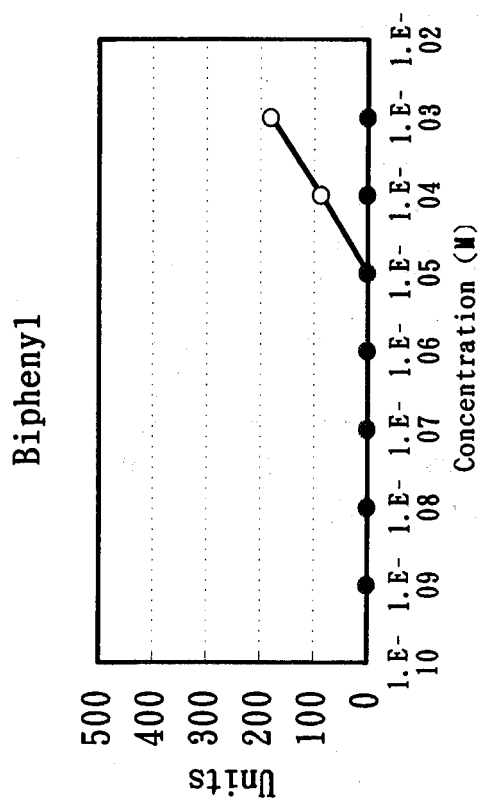


**2,2'-Dihydroxybiphenyl**

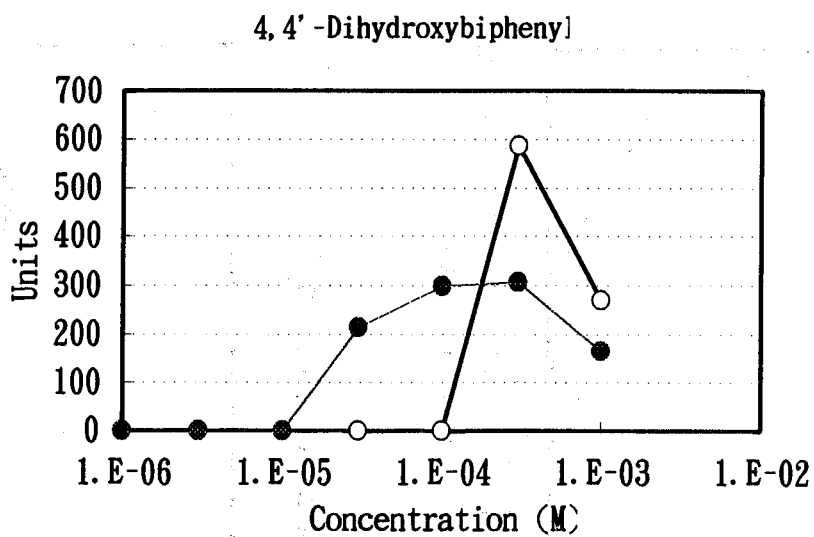
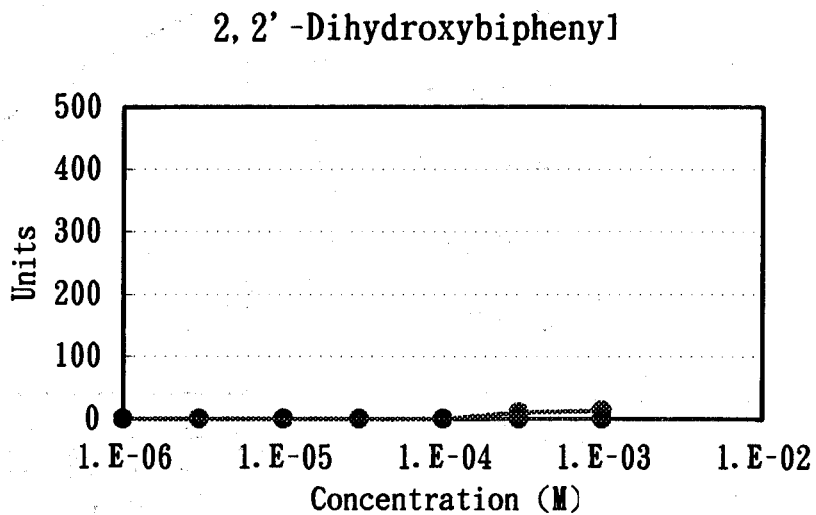


**4,4'-Dihydroxybiphenyl**

**Fig.4 Estrogen-like activity of biphenyls with or without S9**



**Fig.4 Estrogen-like activity of biphenyls with or without S9(continued)**



● : without S9 , ○:with S9

**Table 1. The comparison of the requirement  
of the component**

<b>Component</b>	<b><math>\beta</math> -Galactosidase Activity (units)</b>	<b>Percent of Control (%)</b>
<b>Complete (Control)</b>	<b>5 0 0.0</b>	<b>1 0 0.0</b>
<b>—S9</b>	<b>0.0</b>	<b>0.0</b>
<b>—NADPH</b>	<b>8 9.8</b>	<b>1 8.0</b>
<b>—NADH</b>	<b>4 6.3</b>	<b>9.3</b>
<b>—Glucose-6-phosphate</b>	<b>2 9 8.8</b>	<b>5 9.8</b>
<b>—MgCl<sub>2</sub></b>	<b>2 7 3.3</b>	<b>5 4.7</b>
<b>—KCl</b>	<b>4 1 7.9</b>	<b>8 3.6</b>

**Table 2 The composition and the concentration of the added**

**S9 mixture**

**10% S9\*, 4mM MgCl<sub>2</sub>, 16.5mM KCl,**

**2.5mM Glucose-6-phosphate, 2mM NADPH,**

**2mM NADH, 50mM Na-PO<sub>4</sub>(pH 7.4)**

**\*S9: S9 is prepared from the liver of the rat that put on the induction with 5,6- benzoflavone and phenobarbital.**

