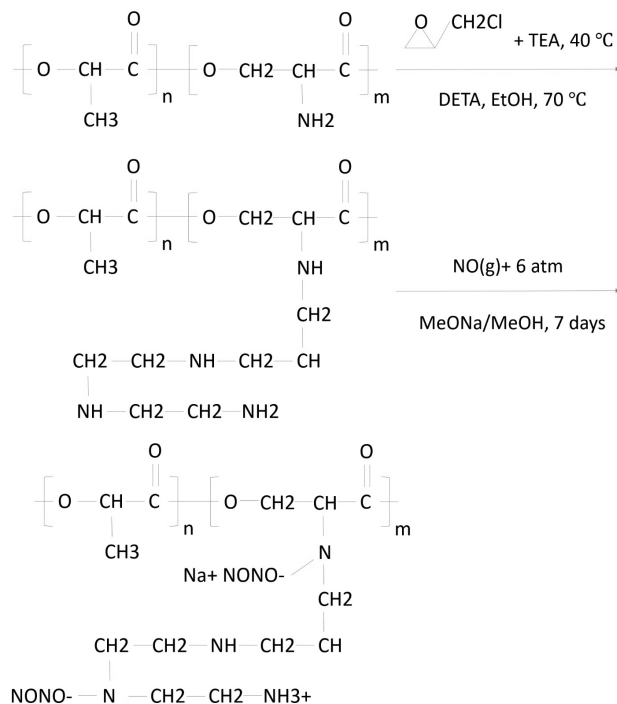


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**Abstract 3 Figure 1** The NO carrying process of Poly-(LA-Serine)-esters.

#### 4 STUDY ON THE ANTIDEPRESSANT-LIKE EFFECTS OF YUZHJIEYU TEA AND ITS COMPOSITION RATIO IN VIVO

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**Objectives** *Cornus officinalis* Sieb. et Zucc. pulp (COP) and *Gardenia jasminoides* Ellis fruit (GJF) are both medicinal and edible herbs with a good taste. Yuzhi Jieyu tea (YZJYT) is mainly prepared using COP and GJF teabags and boiling water. The present study aimed to investigate the antidepressant-like effects of YZJYT and its composition ratio *in vivo* for the first time.

**Methods** Male mice were treated with YZJYT (4 g/kg) at different ratios and fluoxetine hydrochloride (10 mg/kg) once a day for 7 consecutive days by intragastric administration. The forced swim test (FST), tail suspension test (TST), open field test (OFT) and reserpine reversal test 1 hour after the last administration were used to evaluate the antidepressant-like effects and the composition ratio of YZJYT, and brain tissues were used for serotonin determination through enzyme-linked immunoassay.

**Results** YZJYT (COP:GJF ratio ranging from 1:2 to 4:1) administration exerted antidepressant-like effects in mice, as indicated by the reduced duration of immobility in the FST and TST, but it

had no effect on locomotor activity in the OFT. YZJYT treatment significantly counteracted the decrease in rectal temperature induced by reserpine. Furthermore, YZJYT increased levels of serotonin (5-HT) in the brains of mice. These antidepressant-like effects of YZJYT are essentially similar to the effects of the clinical antidepressant fluoxetine hydrochloride.

**Conclusions** These findings indicate that YZJYT exerts an antidepressant-like effect when the composition ratio of COP:GJF ranges from 1:2 to 4:1, and suggest its mechanisms may be partially involved in the central serotonergic system.

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## Natural Medicines

### 5 FERMENTATION AND EXTRACTION CONDITIONS OPTIMIZATION FOR THE PRODUCTION OF POLYSACCHARIDES OF *LEPISTA SORDIDA*

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**Objectives** *Lepista sordida* (Schum.: Fr.) Sing. is a type of edible *Agaricus* mushroom. It exhibits several activities including immunomodulation, and antioxidant and anti-fungal properties. The objective of this investigation was to investigate the fermentation and extraction conditions of polysaccharides from the mycelium of *L. sordida*.

**Methods** This single parameter experiment was performed to identify the optimal culture conditions including culture temperature, culture cycle and initial pH. Furthermore, an orthogonal experimental design L<sub>9</sub> (3<sup>4</sup>) was used to evaluate the combination effects of carbon sources, nitrogen and minerals on the extracts from mycelia. Extraction conditions optimization including the ratio of water to material (v/w), temperature and extraction time based on response surface methodology was employed to identify the optimum conditions.

**Results** The maximum mycelium dry weight was obtained when cultured in an optimal composition of sucrose 30 g/L, yeast extract 6 g/L, KH<sub>2</sub>PO<sub>4</sub> 0.1 g/L and MgSO<sub>4</sub> 1 g/L at temperature 28 °C, culture cycles of 7 days and initial pH 7.0. The optimum conditions for polysaccharide extraction from *L. sordida* mycelia were a ratio of water to material of 72.1:1, temperature 92.6 °C and time 2.9 hours. Under these conditions, the predictive and practical extraction efficiency was 16.5% and 16.5 ± 0.1%, respectively.

**Conclusions** The results are helpful for building an efficient and controllable model to improve the extraction efficiency for industrial production of bioactive polysaccharides from *L. sordida*.

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