

Fig.1

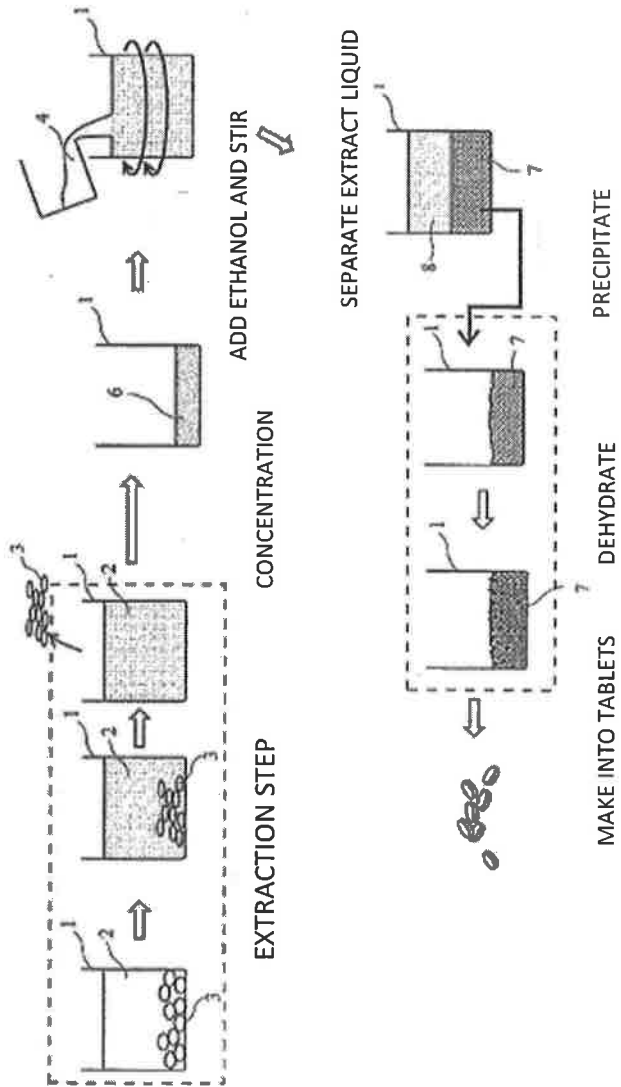


Fig.2

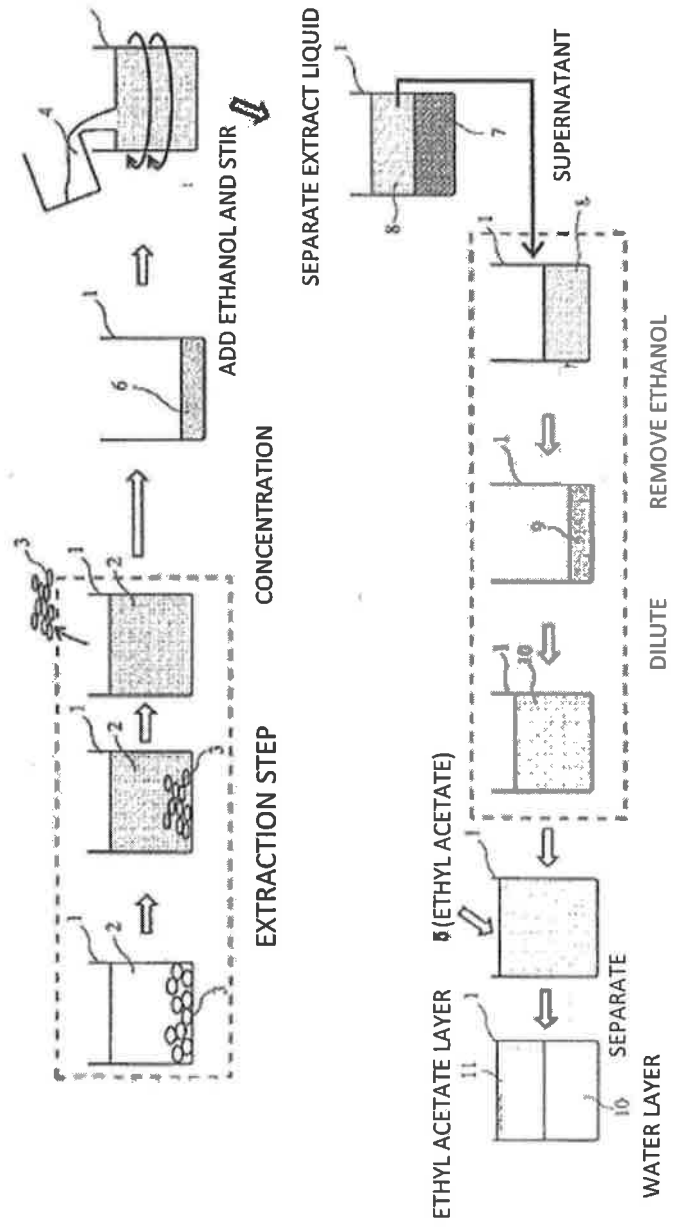


Fig.3

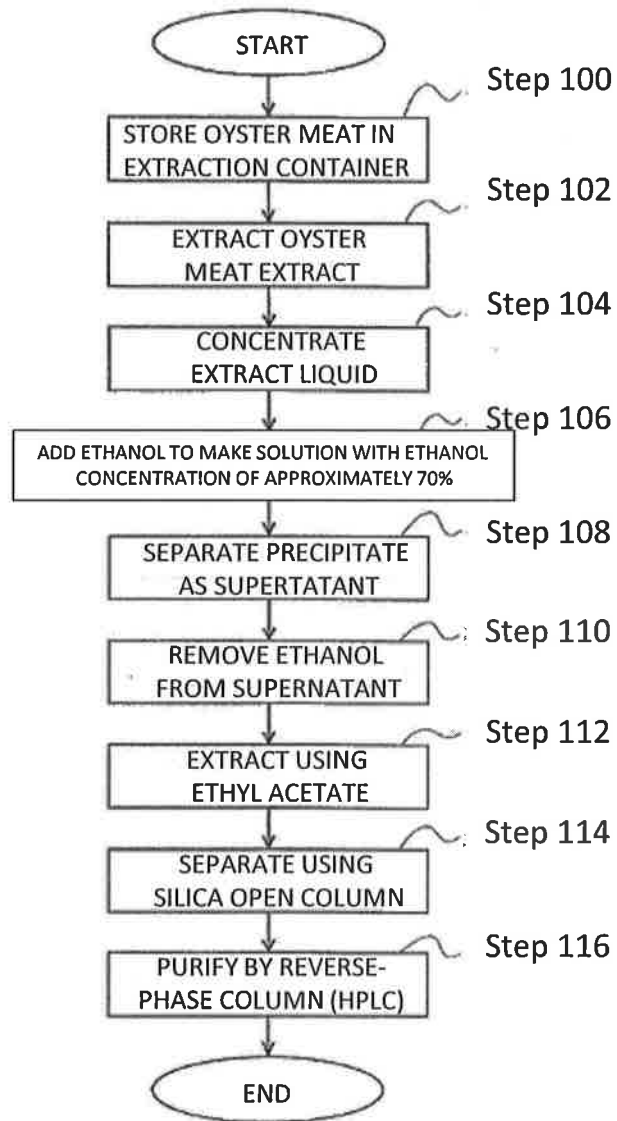
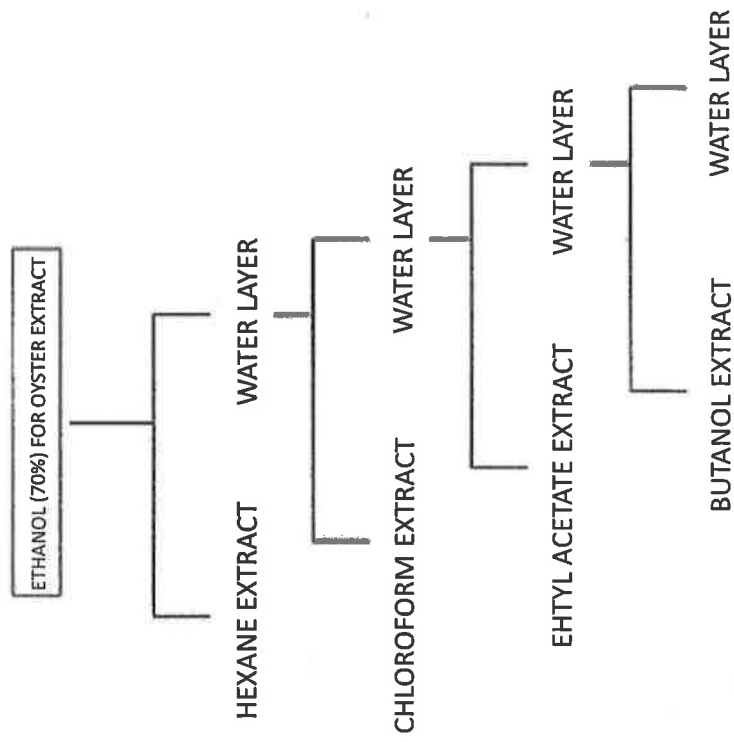


Fig.4

**EXTRACT SCHEME**

AFTER CONCENTRATING AN OYSTER EXTRACT, THE EXTRACT IS SEPARATED INTO WATER AGAIN, AND EXTRACTED USING HEXANE, CHLOROFORM, ETHYL ACETATE, AND BUTANOL IN THIS ORDER

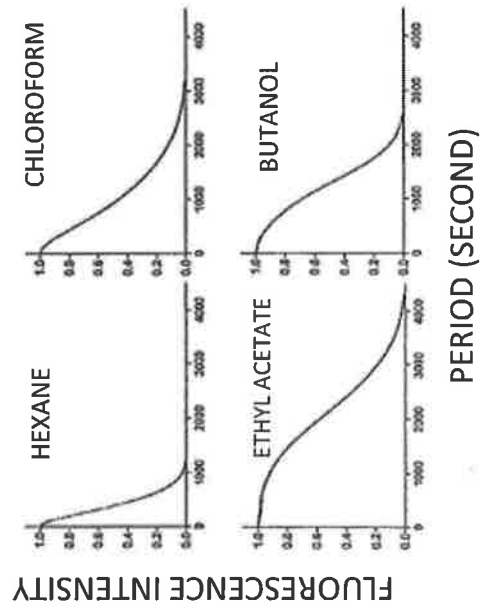


Fig.5

ANTIOXIDANT ACTIVITY TEST OF EACH EXTRACT
 THE FLUORESCENCE INTENSITY OF EACH EXTRACT BY AN ORAC METHOD IS SHOWN.
 THE LONGER THE PERIOD DURING WHICH THE FLUORESCENCE INTENSITY AT THE START OF MEASUREMENT (0 SECONDS) IS MAINTAINED, THE STRONGER THE ANTIOXIDANT ACTIVITY IS.

Fig.6

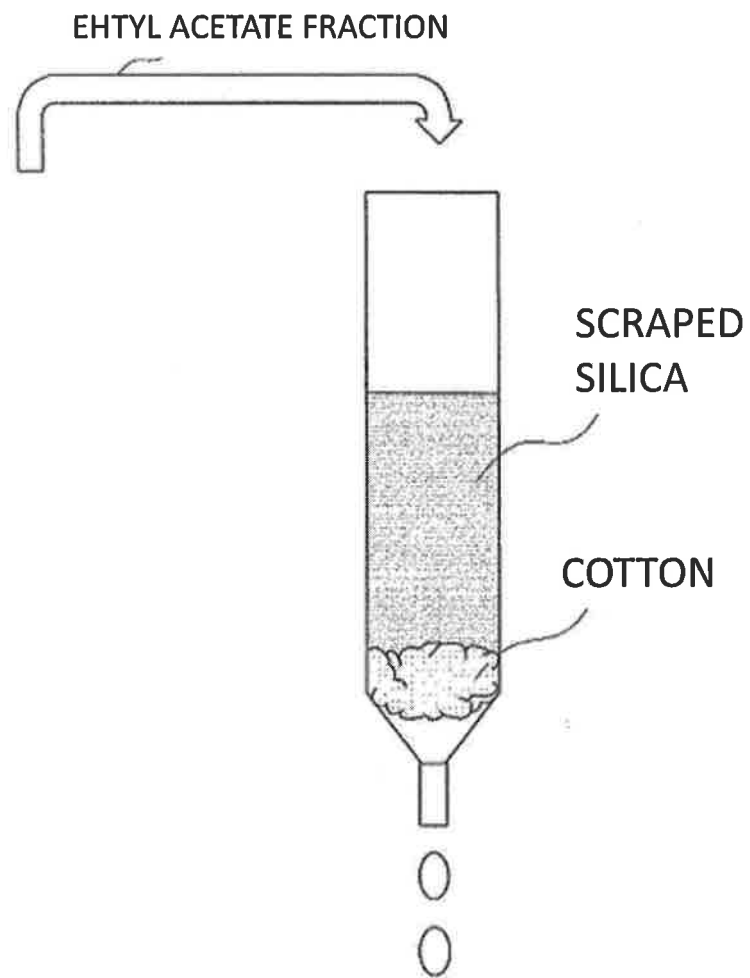


Fig.7

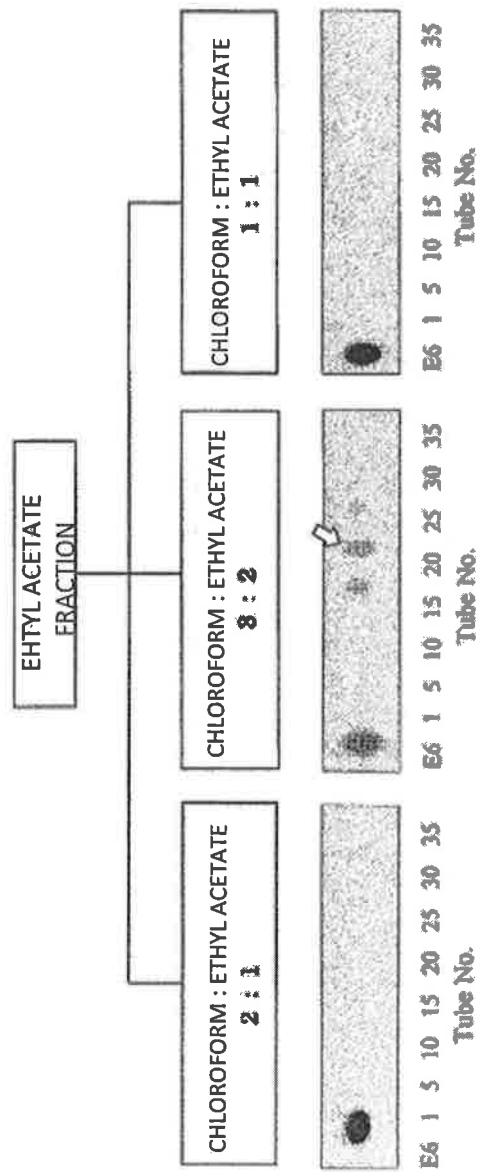


Fig.8

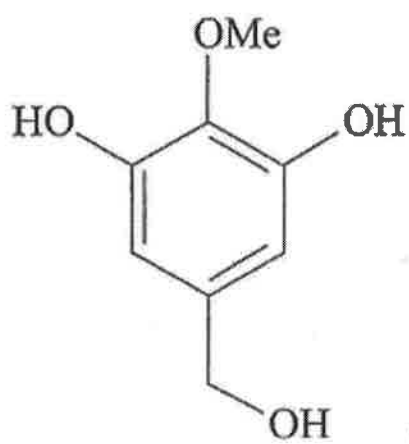


Fig.9

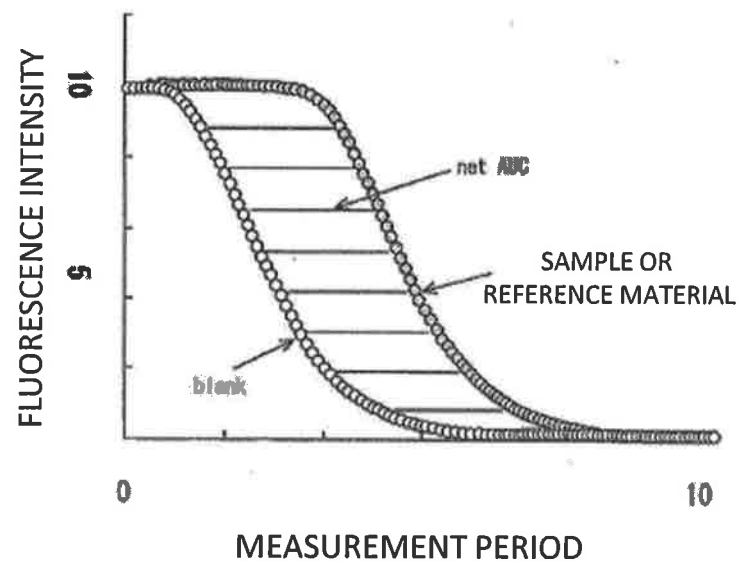
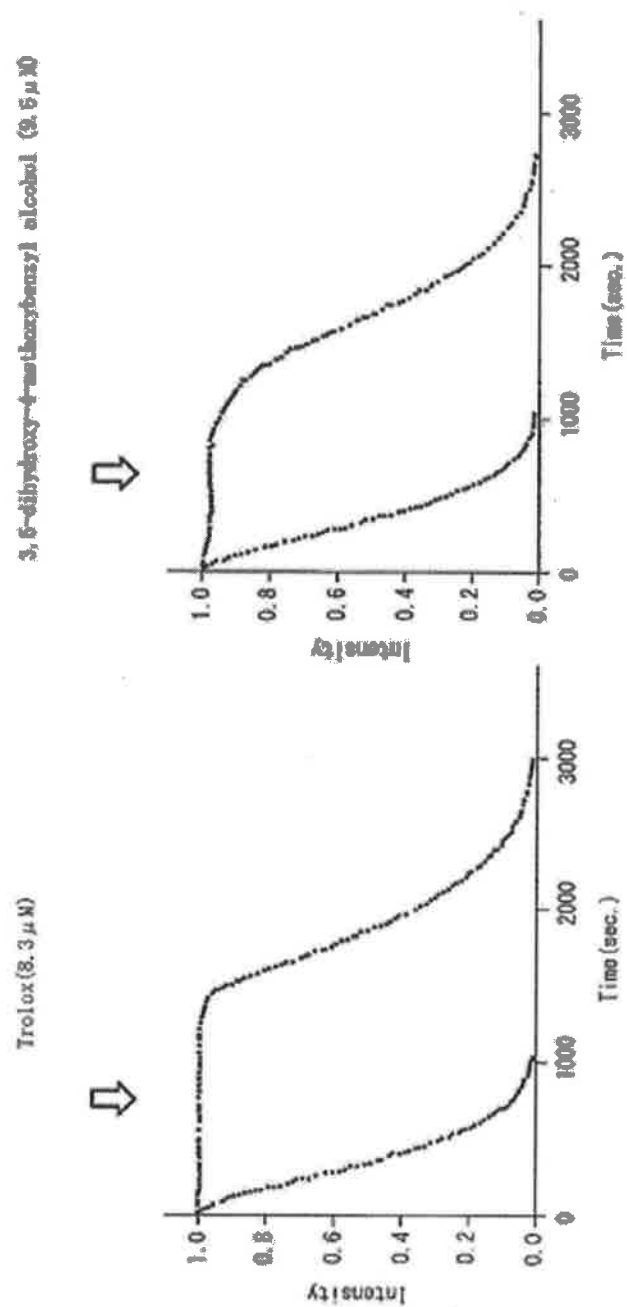


Fig.10



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Fig.11

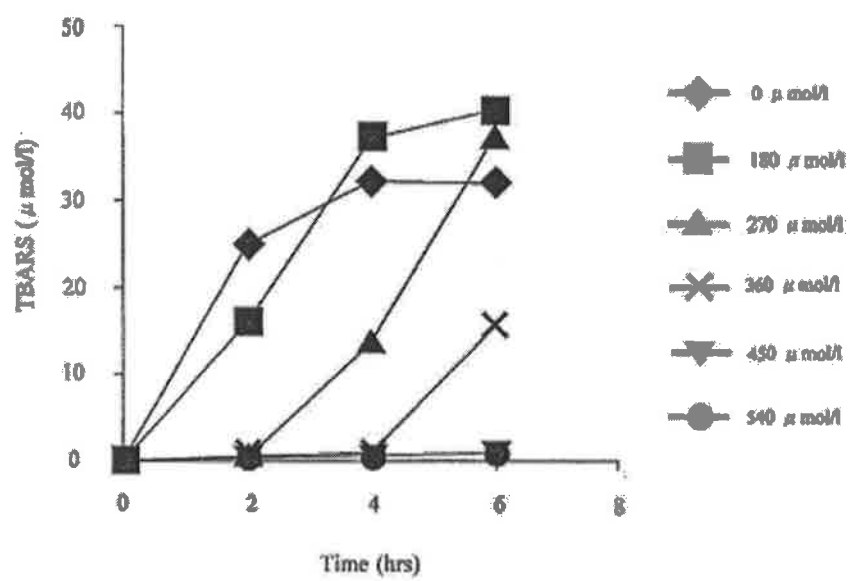
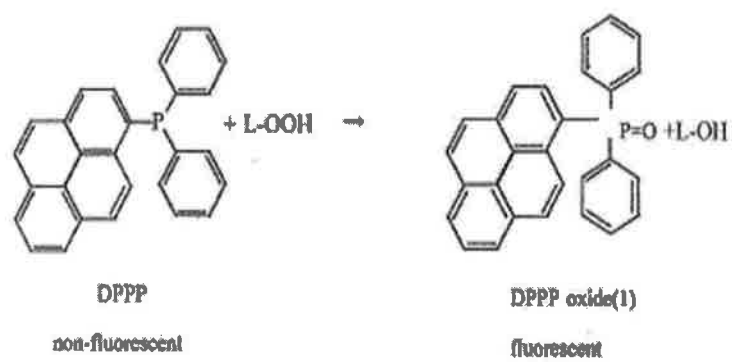


Fig.12



Reaction scheme of DPPP with hydroperoxide

Fig.13

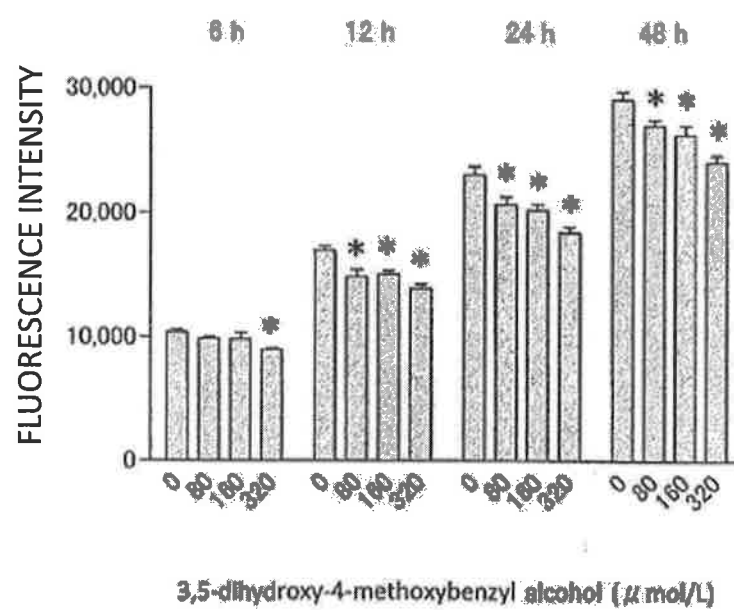
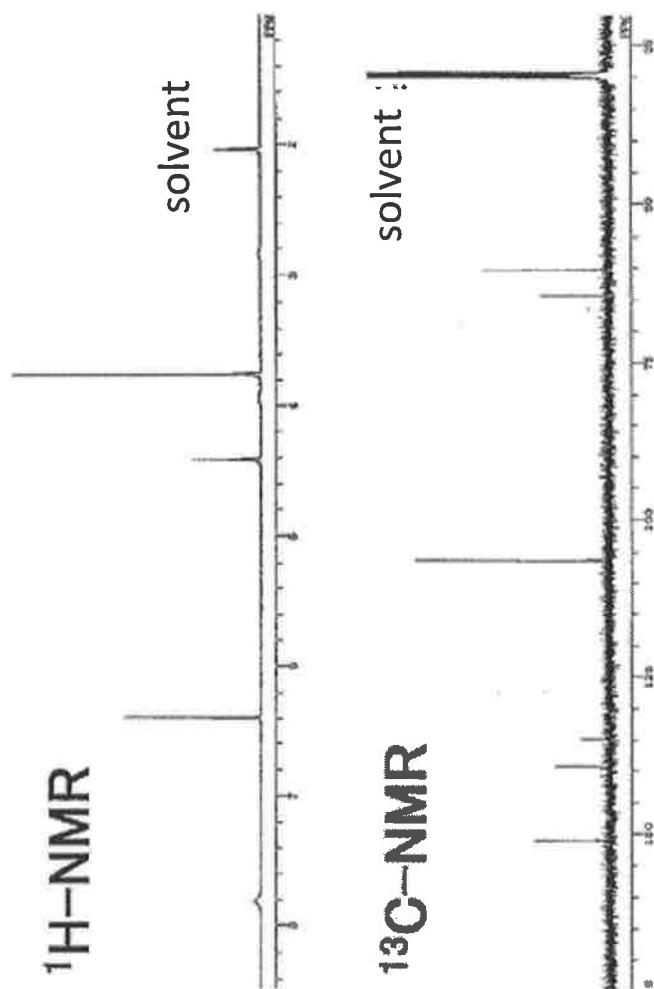


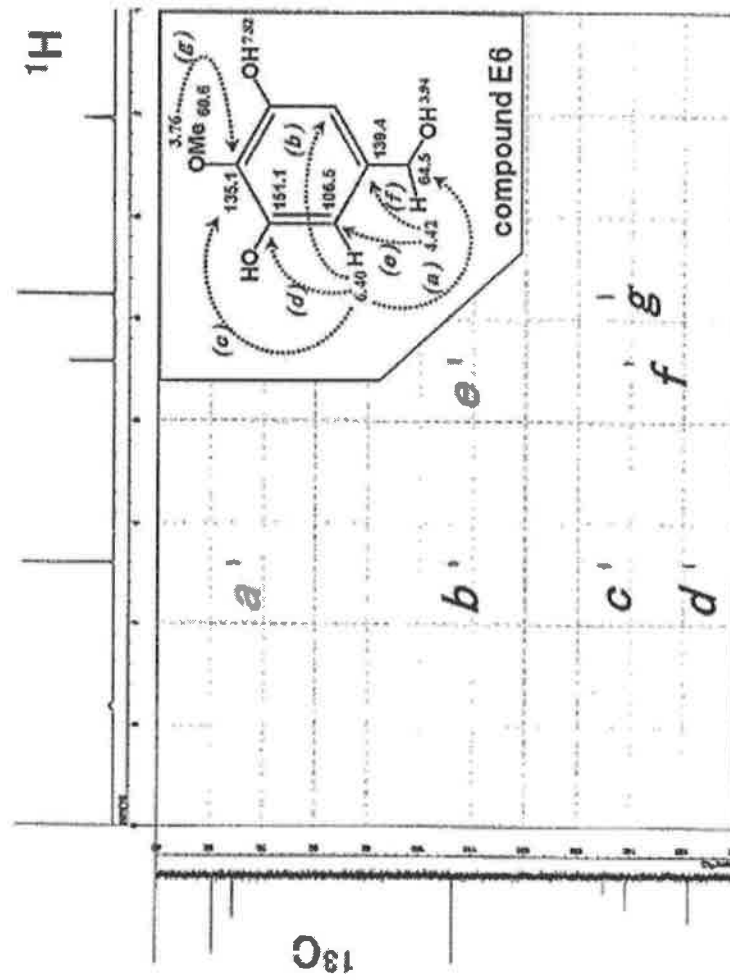
Fig.14



NMR SPECTRUM OF 3,5-DIHYDROXY-4-METHOXYBENZYL ALCOHOL
 IN THE ^1H -NMR SPECTRUM (TOP), A CHARACTERISTIC SIGNAL DERIVED FROM HYDROXYL WAS OBSERVED AT δ 7.82 AND 3.94 ppm, AND A CHARACTERISTIC SIGNAL DERIVED FROM A METHOXY GROUP WAS OBSERVED AT δ 3.79 ppm. A METHYLENE PROTON SIGNAL SANDWICHED BETWEEN OXYGEN AND OLEFIN WAS OBSERVED AT δ 4.42 ppm. A SIGNAL POSSIBLY DERIVED FROM BENZENE RING WAS OBSERVED AT δ 6.40 ppm.

IN THE ^{13}C -NMR SPECTRUM, FOUR SIGNALS DERIVED FROM BENZENE WERE OBSERVED AT δ 161 TO 151 ppm, AND PRESENCE OF A SYMMETRICAL PHENYL GROUP WAS DEMONSTRATED. A METHOXY CARBON SIGNAL AND A METHYLENE CARBON SIGNAL WERE OBSERVED AT δ 60 TO 65 ppm.

Fig.15



HMBC SPECTRUM (ACETONE- d_6) AND PUTATIVE STRUCTURE OF 3,5-DIHYDROXY-4-METHOXYBENZYL ALCOHOL

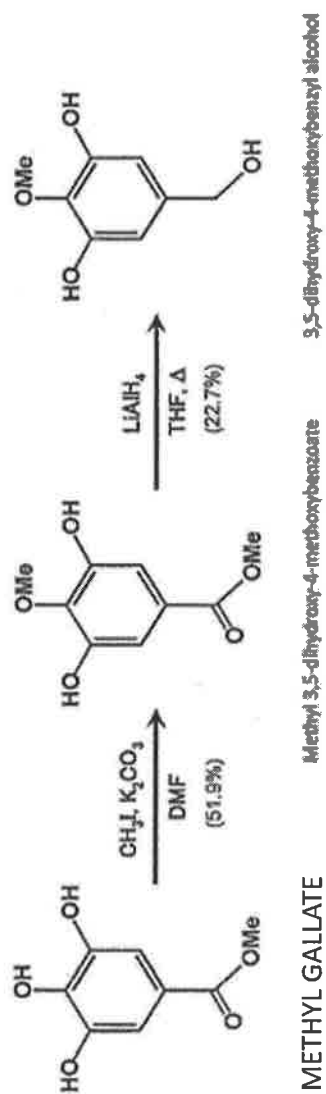
THE HORIZONTAL AXIS INDICATES ^1H -NMR, AND THE VERTICAL AXIS INDICATES ^{13}C -NMR.

THE SIGNALS (a) TO (g) INDICATE A CORRELATION FROM A PROTON SIGNAL TO A CARBON SIGNAL IN A LONG RANGE.

THE MUTUAL CORRELATION IS ILLUSTRATED IN THE UPPER RIGHT PUTATIVE STRUCTURE.

ESPECIALLY, SINCE A CORRELATION SIGNAL FROM METHOXY PROTON TO PHENYL CARBON WAS OBSERVED, DIRECT BINDING OF METHOXY PROTON AND PHENYL CARBON WAS DEMONSTRATED.

Fig.16



SYNTHETIC SCHEME OF 3,5-DIHYDROXY-4-METHOXYBENZYL ALCOHOL.

THE OBJECTIVE SUBSTANCE WAS SYNTHESIZED IN TWO-STEP REACTIONS USING METHYL GALLATE AS A SUBSTRATE. THE 4-PHENOLIC GROUP WAS SELECTIVELY METHYLATED IN THE FIRST STEP, AND METHYL ESTER WAS REDUCED BY HYDROGEN LITHIUM ALUMINUM. VALUES IN PARENTHESES INDICATE YIELDS IN THE RESPECTIVE STEPS. THE TOTAL YIELD WAS 19.0%