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## ***N*-demethylation of *p*-chloro-*N*-methylaniline catalyzed by subcellular fractions from the avocado pear (*Persea americana*)**

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### **Abstract**

Subcellular fractions from the avocado pear (*Persea americana*) catalyzed formation of *p*-chloroaniline from *p*-chloro-*N*-methylaniline. Fractions prepared by centrifugation of avocado homogenates at 20,000*g* for 20 min formed *p*-chloroaniline ( $2900 \pm 500$  pmol min<sup>-1</sup> mg protein<sup>-1</sup>) with an NADPH-generating system. *p*-Chloroaniline formation required reduced pyridine nucleotide (NADPH was 6–7 times more effective than NADH) and O<sub>2</sub>. *N*-Demethylation was inhibited by CO (55% inhibition at CO:O<sub>2</sub> = 1) and was not inhibited by CN. Cytochrome P-450 was detected in the 20,000*g* pellet at levels of 300–380 pmol/mg protein. This particulate preparation was also active in catalyzing the NADPH-dependent epoxidation of the chlorinated cyclodiene aldrin. Improvements to a colorimetric procedure for measuring *p*-chloroaniline increased the sensitivity of the procedure fourfold, and allowed use of samples containing high amounts of lipid. Avocado pear is suitable tissue for further studies on the oxidation of foreign compounds by higher plants.

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