

**Optimal  $^{99m}\text{Tc}$  radiolabeling of fullereneol  $\text{C}_{60}(\text{OH})_{22-24}$  - potential tracer for scintigraphic investigation of kidneys and urinary bladder.**

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Influences of structural properties on the stability of fullereneol and  $^{99m}\text{Tc}$  complexes,  $[\text{}^{99m}\text{Tc}(\text{CO}_3)_3(\text{H}_2\text{O})_3]\text{C}_{60}(\text{OH})_{22-24}$ , were studied using experimental mass spectrometric techniques, MALDI TOF, magnetic mass spectrometer and HPLC. We performed the dynamic and static scintigraphy of dog, using new synthesized radiopharmaceutical  $[\text{}^{99m}\text{Tc}(\text{CO}_3)_3(\text{H}_2\text{O})_3]\text{C}_{60}(\text{OH})_{22-24}$ .

After 24 hours, we detected the activity in kidneys and urinary bladder. Pharmacokinetic investigations performed in this study are of key interest for the further complexes of fullereneol in human in vivo research.

fullereneol, MALDI TOF, radiopharmaceutical, in vivo