



**Fig. S1.** Evolution of the percentage of  $\text{Na}^{99\text{mTc}}\text{TcO}_4$  and  $^{99\text{mTc}}\text{Tc}(\text{TcO}_2)_n$  as a function of time following the radiolabeling of  $^{99\text{mTc}}\text{Tc}$ -mebrofenin (a and c) and  $^{99\text{mTc}}\text{Tc}$ -etifenin (b and d), according to methods 1 to 4.