concat-decomp^{0,22}

$\forall T$:Type, ll:(T List) List, x:T.
($x \in$ concat(ll))
$\Leftrightarrow$
($\exists ll_1$, ll_2:(T List) List, l_1, l_2:T List.
 concat(ll) = (concat(ll_1) @ (l_1 @ [x] @ l_2) @ concat(ll_2)) $\in$ T List
 & ll = (ll_1 @ [l_1 @ [x] @ l_2] @ ll_2))

http://www.cs.cornell.edu/Info/Projects/NuPrl/FDLcontent/p0_286125_/p38_327115_{concat-decomp}.html