

list_update^{0,22}

$l[i:=x] \equiv_{\text{def}} \text{mklist}(\|l\|; \lambda i. l[i][i:=x])$

clarification:

$l[i:=x] \equiv_{\text{def}} \text{mklist}(\|l\|; \text{update}(\lambda i, j. \ i=2j; \lambda i. l[i][i:=x]))$