Input: state $\boldsymbol{a}, n^{(X)}, n^{(Y)}, n^{(Z)}$, intermediate Inside matrix α
emitProb $\leftarrow 0$;
foreach $\boldsymbol{b} : \exists\, \boldsymbol{a} \rightarrow \boldsymbol{b}$ **do**
  emitProb += $P\left(\boldsymbol{a} \rightarrow \boldsymbol{b}\right)\, \alpha_{\boldsymbol{b}}\left(n^{(X)}, n^{(Y)}, n^{(Z)}\right)$;
end
foreach $\boldsymbol{b} : \exists\, \boldsymbol{a} \rightarrow \boldsymbol{l}\, \boldsymbol{b}\, \boldsymbol{r}$ **do**
  if $c_{in}\left(\boldsymbol{b}; n^{(X)}\right) \notin \mathscr{F}^{(X)}$ *or* $c_{in}\left(\boldsymbol{b}; n^{(Y)}\right) \notin \mathscr{F}^{(Y)}$ *or* $c_{in}\left(\boldsymbol{b}; n^{(Z)}\right) \notin \mathscr{F}^{(Z)}$ **then** next;
  emitProb += $P\left(\boldsymbol{a} \rightarrow \boldsymbol{l}\, \boldsymbol{b}\, \boldsymbol{r}\right)\, \alpha_{\boldsymbol{b}}\left(c_{in}\left(\boldsymbol{b}; n^{(X)}\right), c_{in}\left(\boldsymbol{b}; n^{(Y)}\right), c_{in}\left(\boldsymbol{b}; n^{(Z)}\right)\right)$;
end
return emitProb;