tag	accuracy	f1 score	accuracy for unknown words	accuracy for known words	number of unknown words	number of known words
A (إسم) B	96.09 %	93.84 %	94.74 %	96.21 %	19	211
B (رقم) C	99.47 %	49.87 %	100.0 %	99.45 %	5	182
C (إسم معرف)	89.33 %	44.6 %	53.33 %	93.33 %	15	135
السم معرف) D (إضافة) E	85.23 %	84.6 %	38.46 %	89.71 %	13	136
E (منعوت) F	93.57 %	91.35 %	25.0 %	97.73 %	8	132
F (نعت) G	88.02 %	84.79 %	50.0 %	91.5 %	14	153
G (حرف جر)	96.55 %	49.12 %	50.0 %	100.0 %	2	27
(حرف جر) H (اسم مجرور)	89.29 %	61.99 %	66.67 %	92.0 %	3	25
I (و حدة قيس) J	99.02 %	49.75 %	100.0 %	99.0 %	2	100
J (واو العطف) K	100.0 %	100.0 %	NULL	100.0 %	0	18
K (فعل مبني للمجهول) L	100.0 %	100.0 %	100.0 %	100.0 %	2	14
L (المفعول المطلق) M	0.0 %	0.0 %	NULL	0.0 %	0	1
M (أداةُ عَطْفٌ غير واو العطف)	100.0 %	100.0 %	NULL	100.0 %	0	8
	99.87 %	49.97 %	NULL	99.87 %	0	787

Table 1: Performances for each tag using our ingredient extractor for fold 3 with  $\lambda=4$  when accuracy is 100% on first layer

			accuracy for	accuracy for	number of	unknown
tag	accuracy	f1 score	unknown	known	unknown	words
			words	words	words	percentage
0	95.78~%	67.91 %	61.11 %	97.38 %	78	9.67 %
1	94.34~%	66.51 %	68.85 %	95.87 %	107	13.26 %
2	94.98~%	67.32 %	67.96 %	96.44 %	88	10.9 %
3	95.83~%	67.71 %	62.65 %	97.25 %	75	9.29 %
4	-	-	-	-	-	-
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
Avg	-	-	-	-	-	-

Table 2: Performances in predicting ingredients states for fold 3 with  $\lambda=4$  when accuracy is 100% on first layer