Glyphosate determination by coupling an immuno-magnetic assay with electrochemical sensors

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Table 1: Comparison of the features of some sensors and biosensors recently reported in literature for glyphosate detection.

(Bio)sensing reagents	**Assay type**	**Detection technique**	**Derivatization**	**LOD (as reported)**	**LOD (g/L)**	**Ref.**
Antibody	Competitive	Fluorescence	yes	0.021 µg/L	21 ng/L	[1]
Oligopeptide	Direct	Surface plasmon resonance	no	0.58 µM	$9.8 \cdot 10^4$ ng/L	[2]
Antibody	Competitive	Fluorescence	no	8 ng/mL	$8 \cdot 10^3$ ng/L	[3]
Cu-dopped poly (vinyl) alcohol nanofibers + dithiocarbamic acid	Direct	Colorimetric	no	1.1 µg/mL	$1.1 \cdot 10^6$ ng/L	[4]
Ag ions	Binding-induced internal-displacement	Photoelectrochemical	no	30 pM	5.1 ng/L	[5]
Antibody	Sandwich	Fluorescence	no	0.01 µg/mL	$1 \cdot 10^5$ ng/L	[6]
Molecular imprinted polymer	Direct	Electrochemistry	no	0.35 ng/ mL	350 ng/L	[7]
Molecular	Direct	Electrochemistry	no	0.8 pg/L	$8 \cdot 10^{-4}$	[8]

imprinted polymer					ng/L	
Molecular imprinted polymer	Direct	Electrochemistry	no	1 pM	0.17 ng/L	[9]
Molecular imprinted polymer	Direct	Electrochemistry	no	0.27 ng /mL	270 ng/L	[10]
Antibody	Competitive	Electrochemistry	yes	5 ng/L	5 ng/L	This work

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