Development of passive samplers for in-situ measurement of iodine in the environment

!"#$#%&"'()'#*+(,(#,$-.&$%'./.'0#."#'+(#("/.,&"1("'#.2#$#%&"2'$"'#%&"%(,"#3&,#2&%.('04#.'#.2#(22("'.$5#'&#
6"-(,2'$"-#'+(#',$"23(,#1(%+$".21#&3#,$-.&"6%5.-(2#$"-#'&#$22(22#'+(.,#.17$%'#&"#'+(#+($5'+#&3#'+(#
(%&202'(18#9$,'.%65$,#$''("'.&"#.2#7$.-#'&#.&-."(:;<=#."#'+(#("/.,&"1("'#,(5($2(-#>0#"6%5($,#$%'./.'.(24#
-6(#'&#.'2#,(5$'./(50#+.?+#3.22.&"#0.(5-4#5&"?#+$53:5.3(#@;8AB);C7#0($,2D4#+.?+#1&>.5.'0#$"-#$%'./(#
7$,'.%.7$'.&"#."#>.&:$22&%.$'(-#7,&%(22(28#E&*(/(,4#!:;<=#.2#$#-.33.%65':'&:1($26,(#,$-.&"6%5.-(4#>(."?#
$#5&*:("(,?0#F-(1.''(,#*.'+#1."6'(#%&"%("',$'.&"2#."#'+(#("/.,&"1("'8#G+(#.":2.'6#H6$"'.3.%$'.&"#&3#
.'2#',$"23(,2#."#2&.5:*$'(,#%&"'."661 2#,(1$."2#$#,($5#%+$55("?(#I;J8#
#
K.3362./(#L,$-.("'2#."#G+.":3.5 1 2#@KLGD#.2#$"#."2.'6#7$22./(#2$175(,#*.'+#$#*.-(27,($-#62(#."#
("/.,&"1("'$5#2'6-.(2#I<J8#!'#.2#>$2(-#&"#'+(#$%%6 1 65$'.&"#&3#$"#$"$50'(#&"'&M."'&#$#>."-."?#$?("'#
'+$'#.2#%&/(,(->0#$#-.3362./(#?(5#$.1(-#'&#(2'$>5.2+#$#*(55:-(3."(-#-.3362.&"#5$0(,8#G+.2#'(%+".H6(#
&65-#$55&#'&#27(%.3.%$550#H6$"'.30#."2.'6#'+(#5$>.5(#3,$%'.&"#&3#.&-."(4#.8(84#'+(#3,$%'.&"#&3#.&-."(#
-(2&,>(-#3,&1#'+(#2&.5#."'&#'+(#7&,(#*$'(,#."$#,$7.-#(H6.5.>,.61 8#G&#-$'(4#.&-.-(:27(%.3.%#KLG#%$"#
&"50#>(#$775.(-#'&#2($*$'(,#INJ4#2&#'+(#$.1#&3#'+.2#."'(,"2+.7#.2#'&#()'("-#'+(#().2'."?#'(%+".H6(#'&#
3,(2+*$'(,#>0#-(/(5&7."?#$#"(*#2$175(,8##
#
G+(#2'6-("'#*.55#>(#."/&5/(-#."#'+(#3&55&*."?#'$202P##
Q6$"'.30#.&-."(#."#*$'(,#2$175(2#%&55(%'(-#$,&6"-#'+(#R(22("+(.1#"6%5($,#7&*(,75$"'#
G(2'#'+(#$-2&,7'.&"#(33.%.("%0#&3#2&1(#,(2."2#3&,#.&-."(#6"-(,#-.33(,("'#%&"-.'.&"2#62."?#
2&5.-M5.H6.-#()',$%'.&"#
S22(1>50#KLG2#3,&1#'+(#2(5(%'(-#,(2."4#$"-#-('(,1."(#'+(#-.3362.&"#%&(33.%.("'#&3#.&-."(#."#'+(#
-.3362./(#?(5#>0#O."('.%2#()7(,.1("'2#
!":2.'6#/$5.-$'.&"#&3#'+(#-(/(5&7(-#KLG#
#
Expected skills
T"&*5(-?(#&3#2&5.-M5.H6.-#()',$%'.&"#$"-#$"$50'.%$5#'(%+".H6(2#26%+#$2#.&"#%+,&1$'&?,$7+04#UV:
V.2#27(%',&2%&70#$"-#!W9:XY8#
L&&-#&,$5#$"-#*,.''("#%&1 16".%$'.&"#2O.552#."#Z"?5.2+#$"-M&,#R,("%+8#
S>.5.'0#'&#'$0(#."'.$'./(#$"-#*&,O#$2#7$,'#&3#$#'($18#
#
Host laboratory
K,8#[6#[.6#$"-#K,8#X.,(55$#K(5#\(,&#
]$-.&%+(1.2',0#?,&674#!"2'.'6'#956,.-.2%.75."$.,(#E6>(,'#W6,.("#@!9EW:W\]Y4#UX]B;B^D#
<N#]6(#K6#[_224#W$1762#-(#W,&"("">&6,?4#`B<CC#Y',$2>&6,?4#R,$"%(#
#
To apply
Y("-#WV#$"-#%&/(,#5('',#'&#5685.6a.7+%8%",283,#
Y6%%(22365#%$"-.-$'(2#*.55#>(#."',/.(*(-#
#
References
I;J#b8#E&64#V8#E$"2("4#S8#S5-$+$"4#L8#9&22"(,'4#c8#W8#[."-4#L8#[6d$".("(4#*Anal. Chim. Acta*#**2009**4#

*632*4#;^;e;=`8#

I<J# W8#[.4#Y8#K."?4#[8#f$"?4#f8#g$"?4#X8#]("4#X8#W+("4#b8#R$"4#Z8#[.%+'3&62(4#*Environ. Chem. Lett.*#**2019**4#*17*4#^C;e^N;8#

INJ# h8#L&,"04#W8#h$,-."4#c8#K.(i4#h8#L$5%(,$"4#S8#L&6,?.&'.24#Y8#E$77(54#R8#W&77."4#[8#Rj/,.(,4#W8#Y.1&"6%%.4#W8#Wi5$4#

Développement d'échantillonneurs passifs pour la mesure in-situ de l'iode dans l'environnement

K$"2#6"#%&"'()'(#&k#5$#,$-.&$%'./.'j#-$"2#5l("/.,&""(1("'#(2'#6"(#7,j&%%67$'.&"#%&"2'$"'(#7&6,#5$#2&%.j'j4#.5#(2'#(22("'.(5#-(#%&17,("-,(#5(2#1j%$".21(2#-(#',$"23(,'#-(2#,$-.&"6%5j.-(2#('#-lj/$56(,#5(6,#.17$%'#26,#5$#2$"'j#-(#5lj%&202'm1(8#U"(#$''("'.&"#7$,'.%65.m,(#(2'#$%%&,-j(#n#5l.&-(:;<=#-$"2#5l("/.,&""(1("'#,(d('j#7$,#5(2#$%'./.'j2#"6%5j$.,(24#("#,$.2&"#-(#2&"#,("-(1("'#-(#3.22.&"#,(5$'./(1("'#j5(/j4#-(#2$#5&"?6(#-(1.:/.(#@;4AB);C7#$"2D4#-(#2$#?,$"-(#1&>.5.'j#('#-(#2$#7$,'.%.7$'.&"#$%'./(#$6)#7,&%(2262#>.&:$22&%.j28#W(7("-$"'4#5l!:;<=#(2'#6"#,$-.&"6%5j.-(#-.33.%.5(#n#1(26,(,4#%$,#.5#2l$?.'#-l6"#j1('(6,#F-#-(#3$.>5(#j"(,?.(#-&"'#5(2#"./($6)#-(#%&"%("',$'.&"#-$"2#5l("/.,&""(1("'#2&"'#."3.1(28#[$#H6$"'.3.%$'.&"#."':2.'6#-(#2(2#',$"23(,'2#-$"2#5(2#%&"'."661 2#2&5:($6#,(2'(#6"#/j,.'$>5(#-j3.#l;J8#

K.3362./(#L,$-.("'2#."#G+.":3.5 1 2#@KLGD#(2'#6"#'07(#-oj%+$"'.55&""(6,#7$22.3#.":2.'6#5$,?(1("'#6'.5.2j#-$"2#5(2#j'6-(2#("/.,&""(1("'$5(2#l<J8#!5#(2'#>$2j#26,#5l$%%6 1 65$'.&"#-l6"#$"$50'(#26,M-$"2#6"#$?("'#-(#7.j?($?(#H6.#(2'#,(%&6/(,'#-l6"#?(5#-.3362.3#/.2$"'#n#j'$>5.,#6"(#%&6%+(#-(#-.3362.&"#>.("#-j3.".(8#W(''(#'(%+".H6(#7(,1('',$.'#-(#H6$"'.3.(,#27j%.3.H6(1("'#.":2.'6#5$#3,$%'.&"#5$>.5(#-(#5l.&-(4#%l(2':n:--.,(#5$#3,$%'.&"#-l.&-(#-j2&,>j(#-6#2&5#-$"2#5l($6#."'(,2'.'.(55(#-$"2#5(#%$-,(#-l6"#jH6.5.>,(#,$7.-(8#p#%(#d&6,4#5(#KLG#27j%.3.H6(#n#5l.&-6,(#"(#7(6'#q',(#$775.H6j#H6ln#5l($6#-(#1(,#INJ4#5l&>d(%'.3#-(#%(#2'$?(#(2'#-&"%#-lj'("-,(#5$#'(%+".H6(#().2'$"'(#n#5l($6#-&6%(#("#-j/(5&77$"'#6"#"&6/(5#j%+$"'.55&""(6,8##

[lj'6-.$"'8(#2(,$#.175.H6j8(#-$"2#5(2#'r%+(2#26./$"'(2#P#

Q6$"'.3.(,#5l.&-(#-$"2#-(2#j%+$"'.55&"2#-l($6#7,j5(/j2#$6'&6,#-(#5$#%("',$5(#"6%5j$.,(#-(#R(22("+(.14#

G(2'(,#5l(33.%$%.'j#-l$-2&,7'.&"#-(2#,j2."(2#7&6,#5l.&-(#-$"2#-.33j,("'(2#%&"-.'.&"2#n#5l$.-(#-(#5l()',$%'.&"#2&5.-(M5.H6.-(4#

S22(1>5(,#5(#KLG#n#7$,'.,#-(#5$#,j2."(#2j5(%'.&""j(4#-j'(,1."(,#5(#%&(33.%.("'#-(#-.3362.&"#-(#5l.&-(#-$"2#5(#?(5#-.3362.3#n#',$/(,2#-(2#()7j,.("%(2#%."j'.H6(24#

V$5.-(,#.":2.'6#5(#-.27&2.'.3#KLG#-j/(5&77j8#

#

Compétences attendues

W&""$.22$"%(#-(#5l()',$%'.&"#2&5.-(M5.H6.-(#('#-(2#'(%+".H6(2#$"$50'.H6(2#'(55(2#H6(#5$#%+,&1$'&?,$7+.(#.&".H6(4#5$#27(%',&2%&7.(#UV:V.2#('#5l!W9:XY8#

S7'.'6-(#n#5$#%&1 1 6".%$'.&"#&,$5(#('#j%,.'(#("#$"?5$.2#('M&6#("#3,$"s$.28#

W7%.'j#n#7,("-,(#-(2#.".'.$'./(2#('#n#',$/$.55(,#("#jH6.7(8#

#

Laboratoire d'accueil

K,8#[6#[.6#('#K,8#X.,(55$#K(5#\(,&#

L,&67(#,$-.&%+.1.(4#!"2'.'6'#956,.-.2%.75."$.,(#E6>(,'#W6,.("#@!9EWeW\]Y4#UX]B;B^D#

<N#]6(#K6#[_224#W$1762#-(#W,&"(">&6,?4#`B<CC#Y',$2>&6,?4#R,$"%(#

#

Pour candidater

Z"/&0(,#WV#('#5('',(#-(#1&'./$'.&"#n#5685.6 a .7+%8%",283,#

[(2#%$"-.-$'2#,('("62#7$22(,&"'#6"#("',('.("8#

#

Références

I;J# b8#E&64#V8#E$"2("4#S8#S5-$+$"4#L8#9&22"(,'4#c8#W8#[."-4#L8#[6d$".("(4#*Anal. Chim. Acta*#**2009**4#*632*4#;^;e;=`8#

I<J# W8#[.4#Y8#K."?4#[8#f$"?4#f8#g$"?4#X8#](""4#X8#W+("4#b8#R$"4#Z8#[.%+'3&62(4#*Environ. Chem. Lett.*# **2019**4#*17*4#^C;e^N;8#

INJ# h8#L&,"04#W8#h$,-."4#c8#K.(i4#h8#L$5%(,$"4#S8#L&6,?.&'.24#Y8#E$77(54#R8#W&77."4#[8#Rj/,.(,4#W8# Y.1&"6%%.4#W8#Wi5$4#*Anal. Chim. Acta*#**2021**4#*1177*4#Kc!#;C8;C;`Md8$%$8<C<;8NN^B=C8#

#