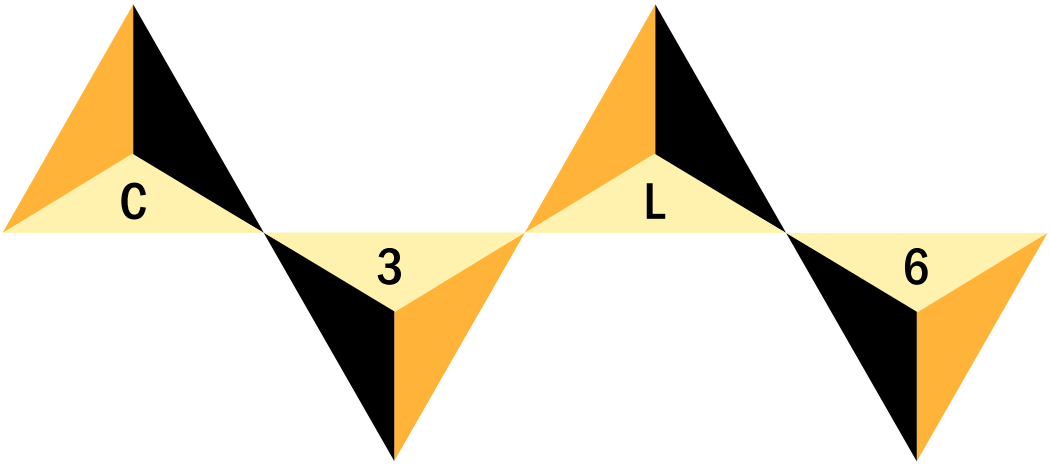


Cambridge Chemistry Challenge Lower 6th

June 2014

Student Answer Booklet

Student name _____

male ☐ female ☐

Email _____

School _____

School year (eg year 12) _____

Subjects taken for AS _____

_____

_____

	p2	p3	p4	p5	p6	p7	p8	p9	Total
mark									

leave blank

1(a)(i) **oxidation states:**

Be	H	Si	O

(a)(ii)

(b)(i) **structure of 2-ethylhexan-1-ol:**

(b)(ii) **structure of phosphoric(V) acid:**

(b)(iii) **structure of DEHPA:**

leave blank

1(c)(i)

(c)(ii)

(d) standard enthalpy change:

(e)(i) molar volume of Be

molar volume of Ca

(e)(ii) *r* **(Ca) /** *r* **(Be)**

leave blank

1(f)(i) number of atoms in volume a^3

(f)(ii) length a

volume of cube

(f)(iii) atomic radius of Ca

leave blank

1(g) standard enthalpy change:

(h)

	increases	decreases	remains constant
bond dissociation enthalpy			
bond length			

(i)(i) bond dissociation enthalpy

(i)(ii)

	increases	decreases	remains constant
bond length			

leave blank

2(a)(i) **molecular formulae**

I	II

(a)(ii) **equation:**

(a)(iii) **structure of Compound A:**

(b) **structure of hydrochloride salt**

(c)(i)

Nucleophile **Electrophile** **Radical** **Catalyst**

(c)(ii)

Hydrolysis **Condensation** **Oxidation** **Reduction** **Isomerisation**

leave blank

2(d)(i) **(d)(ii)**

Compound B[1]	**Compound B[2]**

(e)(i)

Nucleophile **Electrophile** **Radical** **Catalyst**

(e)(ii) **structure of Compound C:**

structure of Compound D:

(f)(i) **(f)(ii)**

(f)(iii) **(f)(iv)**

(f)(v)

leave blank

2(g) isomers

(h) anion:

(i) percentage peak height:

(j)(i) formulae:

(j)(ii) percentage peak height:

leave blank

2(k)(i) molecular formulae:

uric acid	**allantoin**

(k)(ii)

X	**Y**

(k)(iii) equation:

(l) amount of uric acid: