

100629 P14151 SEQs.txt
SEQUENCE LISTING

<110> Oxthera Intellectual Property AB
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Cowley, Aaron B
Gölander, Carl-Gustaf
Sidhu, Harmeet

<120> PURIFICATION AND ISOLATION OF RECOMBINANT OXALATE DEGRADING
ENZYMES AND SPRAY-DRIED PARTICLES CONTAINING OXALATE DEGRADING
ENZYMES

<130> P14151 PC / P13530

<160> 19

<170> PatentIn version 3.5

<210> 1

<211> 1152

<212> DNA

<213> Bacillus subtilis

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<212> DNA

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<213> Artificial Sequence

<220>

<223> recombined sequence, originally from *Bacillus subtilis*

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<211> 1152

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<213> Artificial Sequence

<220>

<223> recombined sequence, originally from *Bacillus subtilis*

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ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ctttgcattc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
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 <213> Artificial Sequence

<220>
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 <223> recombined sequence, originally from *Bacillus subtilis*

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gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa      300
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<211> 1152
<212> DNA
<213> Artificial Sequence
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<220>
<223> recombined sequence, originally from Bacillus subtilis
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ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattc      240
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tttattgacg atgtagggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc      420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct      480
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aaaagtagta aa	1152

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aaaagcagta aa	1152

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<220>
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<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

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<220>
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gtgccttatc catttactta ccgccttctt gaacaagagc cgatcgaatc tgagggagga	720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
acgtttaatt accaagccgg tgatgtcgga tatgtaccat ttgcaatggg tcattacgtt	960
gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggtca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140
aaacgaagta aa	1152

<210> 12
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

<400> 12	
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catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa	180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
tgggcttata tgatttacgg aagtgcaaga gtcacaattg tagatgaaaa agggcgcagc	360
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atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
tttgaaaacc aacttcctgg cagtttataaa gatgatattg tggaagggcc gaatggcgaa	660
gtgccttatc catttactta ccgccttctt gaacaagagc cgatcgaatc tgagggagga	720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
acgtttaatt accaagccgg tgatgtcgga tatgtaccat ttgcaatggg tcattacgtt	960
gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggtca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140

aaacggagta aa

1152

<210> 13
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

<400> 13
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 catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa 180
 ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattcc 240
 gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa 300
 tgggcttata tgatttacgg aagtgaaga gtcacaattg tagatgaaaa agggcgcagc 360
 tttattgacg atgtaggatga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc 420
 atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct 480
 gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct 540
 gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata 600
 tttgaaaacc aacttcctgg cagtttaaaa gatgatattg tggaagggcc gaatggcgaa 660
 gtgccttatc catttactta ccgccttctt gaacaagagc cgatcgaatc tgaggaggga 720
 aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc 780
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 caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga 900
 acgtttaatt accaagccgg tgatgtcggg tatgtaccat ttgcaatggg tcattacgtt 960
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 gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttgttca agcgcacctt 1080
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 aaaagaagta aa 1152

<210> 14
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

<400> 14
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 catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa 180

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ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattcc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
tgggcttata tgattttacgg aagtgcgaaga gtcacaattg tagatgaaaa agggcgagc	360
tttattgacg atgtaggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc	420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
tttgaaaacc aacttcctgg cagtttataaa gatgatattg tggaagggcc gaatggcgaa	660
gtgccttata cattttactta ccgccttctt gaacaagagc cgatcgaatc tgaggaggga	720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
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gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttgttca agcgacacct	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140
aaaaggagta aa	1152

<210> 15
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from Bacillus subtilis

<400> 15	
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catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa	180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattcc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
tgggcttata tgattttacgg aagtgcgaaga gtcacaattg tagatgaaaa agggcgagc	360
tttattgacg atgtaggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc	420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
tttgaaaacc aacttcctgg cagtttataaa gatgatattg tggaagggcc gaatggcgaa	660
gtgccttata cattttactta ccgccttctt gaacaagagc cgatcgaatc tgaggaggga	720

100629 P14151 SEQs.txt

aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
acgtttaatt accaagccgg tgatgtcggg tatgtaccat ttgcaatggg tcattacggt	960
gaaaacatcg gggatgaacc gcttgctttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggttca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140
aaagctagta aa	1152

<210> 16
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

<400> 16	
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catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa	180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
tgggcttata tgatttacgg aagtgcgaaga gtcacaattg tagatgaaaa agggcgcagc	360
tttattgacg atgtagggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc	420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
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gtgccttata catttactta ccgccttctt gaacaagagc cgatcgaatc tgagggagga	720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
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gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggttca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140
aaagccagta aa	1152

<210> 17

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<211> 1152

<212> DNA

<213> Artificial Sequence

<220>

<223> recombined sequence, originally from *Bacillus subtilis*

<400> 17

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aaaaaaca aa atgacattcc gcagccaatt agaggagaca aaggagcaac ggtaaaaatc      60
ccgcgcaata ttgaaagaga ccggcaaaac cctgatatgc tcgttccgcc tgaaaccgat      120
catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa      180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattc      240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa      300
tggtgcttata tgatttacgg aagtgaaga gtcacaattg tagatgaaaa agggcgcagc      360
tttattgacg atgtaggatga aggagacctt tggacttctc cgtcaggcct gccgcactcc      420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct      480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct      540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata      600
tttgaaaacc aacttcctgg cagtttaaaa gatgatattg tggaagggcc gaatggcgaa      660
gtgccttata catttactta ccgccttctt gaacaagagc cgatcgaatc tgagggagga      720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc      780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaaatac ccacgaatgg      840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga      900
acgtttaatt accaagccgg tgatgtcggg tatgtaccat ttgcaatggg tcattacgtt      960
gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct     1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggtca agcgcacctt     1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag     1140
aaagcaagta aa                                     1152

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<210> 18

<211> 1152

<212> DNA

<213> Artificial Sequence

<220>

<223> recombined sequence, originally from *Bacillus subtilis*

<400> 18

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aaaaaaca aa atgacattcc gcagccaatt agaggagaca aaggagcaac ggtaaaaatc      60
ccgcgcaata ttgaaagaga ccggcaaaac cctgatatgc tcgttccgcc tgaaaccgat      120
catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa      180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa ccttgcattc      240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa      300

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tgggcttata tgattttacgg aagtgaaga gtcacaattg tagatgaaaa agggcgagc	360
tttattgacg atgtaggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc	420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
tttgaaaacc aacttcctgg cagtttaaaa gatgatattg tggaagggcc gaatggcgaa	660
gtgccttatc cattttactta ccgccttctt gaacaagagc cgatcgaatc tgaggaggga	720
aaagtataca ttgcagattc gacaaacttc aaagtgtcta aaaccatcgc atcagcgctc	780
gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840
caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
acgtttaatt accaagccgg tgatgtcggg tatgtaccat ttgcaatggg tcattacgtt	960
gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggtca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccagc agtgaaaaag	1140
aaagcgagta aa	1152

<210> 19
 <211> 1152
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> recombined sequence, originally from *Bacillus subtilis*

<400> 19	
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ccgcgcaata ttgaaagaga ccggcaaac cctgatatgc tcgttccgcc tgaaaccgat	120
catggcaccg tcagcaatat gaagttttca ttctctgata ctcataaccg attagaaaaa	180
ggcggatatg cccgggaagt gacagtacgt gaattgccga tttcagaaaa cttgcatcc	240
gtaaatatgc ggctgaagcc aggcgcgatt cgcgagcttc actggcataa agaagctgaa	300
tgggcttata tgattttacgg aagtgaaga gtcacaattg tagatgaaaa agggcgagc	360
tttattgacg atgtaggtga aggagacctt tgggtacttcc cgtcaggcct gccgcactcc	420
atccaagcgc tggaggaggg agctgagttc ctgctcgtgt ttgacgatgg atcattctct	480
gaaaacagca cgttccagct gacagattgg ctggcccaca ctccaaaaga agtcattgct	540
gcgaacttcg gcgtgacaaa agaagagatt tccaatttgc ctggcaaaga aaaatatata	600
tttgaaaacc aacttcctgg cagtttaaaa gatgatattg tggaagggcc gaatggcgaa	660
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gtaacagtag aacccggcgc catgagagaa ctgcactggc acccgaatac ccacgaatgg	840

100629 P14151 SEQs.txt

caatactaca tctccggtaa agctagaatg accgtttttg catctgacgg ccatgccaga	900
acgtttaatt accaagccgg tgatgtcgga tatgtaccat ttgcaatggg tcattacggt	960
gaaaacatcg gggatgaacc gcttgtcttt ttagaaatct tcaaagacga ccattatgct	1020
gatgtatctt taaaccaatg gcttgccatg cttcctgaaa catttggtca agcgcacctt	1080
gacttgggca aagactttac tgatgtgctt tcaaaagaaa agcaccacgt agtgaaaaag	1140
aaaggaagta aa	1152