

SEQ_LISTING_LBNL_039VPC
SEQUENCE LISTING

<110> The Regents of the University of California
ANDERSON, Gary L.
DESANTIS, Todd Z.
BRODIE, Eoin

<120> METHODS AND SYSTEMS FOR PHYLOGENTIC ANALYSIS

<130> LBNL.039VPC

<150> 61/220,937
<151> 2009-06-26

<150> 61/259,565
<151> 2009-11-09

<150> 61/317,644
<151> 2010-03-25

<150> 61/347,817
<151> 2010-05-24

<160> 100

<170> Perl 5.8

<210> 1
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 265003; MM probe is SEQ ID NO:2

<400> 1
AATGGAATTT GATAGAACCT CTGGA 25

<210> 2
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 265003; PM probe is SEQ ID NO:1

<400> 2
AATGGAATTT GAAAGAACCT CTGGA 25

<210> 3
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 231625; MM probe is SEQ ID NO:4

SEQ_LISTING_LBNL_039VPC

<400> 3
CAGTAAGGCA TGAGTAACTT ACCGT 25

<210> 4
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 231625; PM probe is SEQ ID NO:3

<400> 4
CAGTAAGGCA TGGGTAACCTT ACCGT 25

<210> 5
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 186992; MM probe is SEQ ID NO:6

<400> 5
AAACGATGAC CACTAGACGT TGGGG 25

<210> 6
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 186992; PM probe is SEQ ID NO:5

<400> 6
AAACGATGAC CATTAGACGT TGGGG 25

<210> 7
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 327194; MM probe is SEQ ID NO:8

<400> 7
ATAAAGTTAC TTGCCTGCAT TTGGT 25

<210> 8
<211> 25
<212> DNA
<213> Artificial Sequence

SEQ_LISTING_LBNL_039VPC

```

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 327194; PM probe is SEQ ID NO:7

<400>      8
ATAAAGTTAC TTCCCTGCAT TTGGT                                25

<210>      9
<211>      25
<212>      DNA
<213>      Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 151981; MM probe is SEQ ID NO:10

<400>      9
CCGTAGCGTA CGTGATCTAC GATTA                                25

<210>     10
<211>     25
<212>     DNA
<213>     Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 151981; PM probe is SEQ ID NO:9

<400>     10
CCGTAGCGTA CGGGATCTAC GATTA                                25

<210>     11
<211>     25
<212>     DNA
<213>     Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 191212; MM probe is SEQ ID NO:12

<400>     11
TAAAATTTTCG ATGGATACGG ATTGG                                25

<210>     12
<211>     25
<212>     DNA
<213>     Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 191212; PM probe is SEQ ID NO:11

<400>     12

```

	SEQ_LISTING_LBNL_039VPC	
TAAAATTTTCG ATCGATACGG ATTGG		25
<210>	13	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 276480; MM probe is SEQ ID NO:14	
<400>	13	
CAGGCACGAA AACGTGGGGA TCCAA		25
<210>	14	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 276480; PM probe is SEQ ID NO:13	
<400>	14	
CAGGCACGAA AAGGTGGGGA TCCAA		25
<210>	15	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 300668; MM probe is SEQ ID NO:16	
<400>	15	
CGGTTCTTTT TGATGGCGAC CGGCG		25
<210>	16	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 300668; PM probe is SEQ ID NO:15	
<400>	16	
CGGTTCTTTT TGTTGGCGAC CGGCG		25
<210>	17	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	

SEQ_LISTING_LBNL_039VPC

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 25579; MM probe is SEQ ID NO:18

<400> 17
 GGCCTTAGCC CGTGCTGCCG TACGA 25

<210> 18
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 25579; PM probe is SEQ ID NO:17

<400> 18
 GGCCTTAGCC CGAGCTGCCG TACGA 25

<210> 19
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 176744; MM probe is SEQ ID NO:20

<400> 19
 CGCATGTCGA GTATGTTAAA TATCC 25

<210> 20
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 176744; PM probe is SEQ ID NO:19

<400> 20
 CGCATGTCGA GTTTGTTAAA TATCC 25

<210> 21
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 263709; MM probe is SEQ ID NO:22

<400> 21
 CCCAGGTTTCG ATAGTACCAA TTAGG 25

SEQ_LISTING_LBNL_039VPC

```

<210> 22
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 263709; PM probe is SEQ ID NO:21

<400> 22
CCCAGGTTTCG ATGGTACCAA TTAGG 25

<210> 23
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 289612; MM probe is SEQ ID NO:24

<400> 23
CCAAGGACGT TCGTGAGCCG TTCGA 25

<210> 24
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 289612; PM probe is SEQ ID NO:23

<400> 24
CCAAGGACGT TCTTGAGCCG TTCGA 25

<210> 25
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 4284; MM probe is SEQ ID NO:26

<400> 25
AAACGACCCA CTGGGACTGT CCTGA 25

<210> 26
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

```

SEQ_LISTING_LBNL_039VPC

```

<221>
<222>
<223>  Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 4284; PM probe is SEQ ID NO:25

<400>  26
AAACGACCCA CTAGGACTGT CCTGA                25

<210>  27
<211>  25
<212>  DNA
<213>  Artificial Sequence

<220>
<221>
<222>
<223>  Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 111799; MM probe is SEQ ID NO:28

<400>  27
AAAATTGCCC GAAGGAGGAT CTATT                25

<210>  28
<211>  25
<212>  DNA
<213>  Artificial Sequence

<220>
<221>
<222>
<223>  Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 111799; PM probe is SEQ ID NO:27

<400>  28
AAAATTGCCC GATGGAGGAT CTATT                25

<210>  29
<211>  25
<212>  DNA
<213>  Artificial Sequence

<220>
<221>
<222>
<223>  Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 57769; MM probe is SEQ ID NO:30

<400>  29
ATATTACTCC CCATAACATT CGTCC                25

<210>  30
<211>  25
<212>  DNA
<213>  Artificial Sequence

<220>
<221>
<222>
<223>  Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 57769; PM probe is SEQ ID NO:29

<400>  30
ATATTACTCC CCCTAACATT CGTCC                25

```

SEQ_LISTING_LBNL_039VPC

<210> 31
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 277222; MM probe is SEQ ID NO:32

 <400> 31
 AACTTCCTTA GCTCCAAATA CATTC 25

 <210> 32
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 277222; PM probe is SEQ ID NO:31

 <400> 32
 AACTTCCTTA GCACCAAATA CATTC 25

 <210> 33
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 39458; MM probe is SEQ ID NO:34

 <400> 33
 AAGTCCCGTA CGAGCGCAAC CCTTG 25

 <210> 34
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 39458; PM probe is SEQ ID NO:33

 <400> 34
 AAGTCCCGTA CGCGCGCAAC CCTTG 25

 <210> 35
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>

SEQ_LISTING_LBNL_039VPC

```

<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 298577; MM probe is SEQ ID NO:36

<400> 35
AAGGCCCGGC ACTAACTATG ACCGG 25

<210> 36
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 298577; PM probe is SEQ ID NO:35

<400> 36
AAGGCCCGGC ACGAACTATG ACCGG 25

<210> 37
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 126538; MM probe is SEQ ID NO:38

<400> 37
ACAGTACTTA AAGAATAAGC ACCGG 25

<210> 38
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 126538; PM probe is SEQ ID NO:37

<400> 38
ACAGTACTTA AAAAATAAGC ACCGG 25

<210> 39
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 252982; MM probe is SEQ ID NO:40

<400> 39
AAATATTGGG GCTCAACCTT AAGCA 25

```

SEQ_LISTING_LBNL_039VPC

<210> 40
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 252982; PM probe is SEQ ID NO:39

 <400> 40
 AAATATTGGG GCGCAACCTT AAGCA 25

 <210> 41
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 197225; MM probe is SEQ ID NO:42

 <400> 41
 CGTATAGTAC GGTCAGTTTT CTACA 25

 <210> 42
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 197225; PM probe is SEQ ID NO:41

 <400> 42
 CGTATAGTAC GGGCAGTTTT CTACA 25

 <210> 43
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 162084; MM probe is SEQ ID NO:44

 <400> 43
 CCGAAGGACC GGTTCGCT CGACT 25

 <210> 44
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221>
 <222>

SEQ_LISTING_LBNL_039VPC

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 162084; PM probe is SEQ ID NO:43

<400> 44
CCGAAGGACC GGCTCTCGCT CGACT 25

<210> 45
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 228980; MM probe is SEQ ID NO:46

<400> 45
CCTAGTTACC GATCTTGCCC TAGGC 25

<210> 46
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 228980; PM probe is SEQ ID NO:45

<400> 46
CCTAGTTACC GAGCTTGCCC TAGGC 25

<210> 47
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 123763; MM probe is SEQ ID NO:48

<400> 47
CACAGATTTC CCTGTGTTAT TCCCC 25

<210> 48
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 123763; PM probe is SEQ ID NO:47

<400> 48
CACAGATTTC CCGGTGTTAT TCCCC 25

<210> 49

SEQ_LISTING_LBNL_039VPC

<211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 240310; MM probe is SEQ ID NO:50

<400> 49
 TAGCAATACA TCAGGTAGTT AGTGG 25

<210> 50
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 240310; PM probe is SEQ ID NO:49

<400> 50
 TAGCAATACA TCCGGTAGTT AGTGG 25

<210> 51
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 16702; MM probe is SEQ ID NO:52

<400> 51
 GACTCAACAG GCATCACATC AGATA 25

<210> 52
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 16702; PM probe is SEQ ID NO:51

<400> 52
 GACTCAACAG GCTTCACATC AGATA 25

<210> 53
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide

Pair ID: 16703; MM probe is SEQ ID NO:54

<400> 53
TATCTGATGT GATGCCTGTT GAGTC 25

<210> 54
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 16703; PM probe is SEQ ID NO:53

<400> 54
TATCTGATGT GAAGCCTGTT GAGTC 25

<210> 55
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 24979; MM probe is SEQ ID NO:56

<400> 55
TCGGGCGTTG TTAAATCAAT CAAGA 25

<210> 56
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 24979; PM probe is SEQ ID NO:55

<400> 56
TCGGGCGTTG TTAAATCAAT CAAGA 25

<210> 57
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 24980; MM probe is SEQ ID NO:58

<400> 57
TCTTGATTGA TTAAACAACG CCCGA 25

<210> 58
<211> 25

SEQ_LISTING_LBNL_039VPC

<212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 24980; PM probe is SEQ ID NO:57

<400> 58
 TCTTGATTGA TTAAACAACG CCCGA 25

<210> 59
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 41927; MM probe is SEQ ID NO:60

<400> 59
 AAGCATCTGA CTCAACAGGC ATCAC 25

<210> 60
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 41927; PM probe is SEQ ID NO:59

<400> 60
 AAGCATCTGA CTGAACAGGC ATCAC 25

<210> 61
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 41928; MM probe is SEQ ID NO:62

<400> 61
 GTGATGCCTG TTGAGTCAGA TGCTT 25

<210> 62
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 41928; PM probe is SEQ ID NO:61

SEQ_LISTING_LBNL_039VPC

<400>	62	
GTGATGCCTG TTCAGTCAGA TGCTT		25
<210>	63	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 44977; MM probe is SEQ ID NO:64	
<400>	63	
CTGATCGTAT GTATGGTCTA TGGCC		25
<210>	64	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 44977; PM probe is SEQ ID NO:63	
<400>	64	
CTGATCGTAT GTTTGGTCTA TGGCC		25
<210>	65	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 44978; MM probe is SEQ ID NO:66	
<400>	65	
GGCCATAGAC CATACTACG ATCAG		25
<210>	66	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 44978; PM probe is SEQ ID NO:65	
<400>	66	
GGCCATAGAC CAAACATACG ATCAG		25
<210>	67	
<211>	25	
<212>	DNA	

<213> Artificial Sequence

<220>

<221>

<222>

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 46837; MM probe is SEQ ID NO:68

<400> 67

TAAATCAATC AAGACATCCG GTTGT

25

<210> 68

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<221>

<222>

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 46837; PM probe is SEQ ID NO:67

<400> 68

TAAATCAATC AACACATCCG GTTGT

25

<210> 69

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<221>

<222>

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 46838; MM probe is SEQ ID NO:70

<400> 69

ACAACCGGAT GTCTTGATTG ATTTA

25

<210> 70

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<221>

<222>

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 46838; PM probe is SEQ ID NO:69

<400> 70

ACAACCGGAT GTGTTGATTG ATTTA

25

<210> 71

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<221>

<222>

<223> Description of Artificial Sequence: Synthetic oligonucleotide
Pair ID: 48919; MM probe is SEQ ID NO:72

SEQ_LISTING_LBNL_039VPC

<400> 71
 CGATGATGGC TCCGATCCCT TTTTC 25

<210> 72
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 48919; PM probe is SEQ ID NO:71

<400> 72
 CGATGATGGC TCGGATCCCT TTTTC 25

<210> 73
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 48920; MM probe is SEQ ID NO:74

<400> 73
 GAAAAAGGGA TCGGAGCCAT CATCG 25

<210> 74
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 48920; PM probe is SEQ ID NO:73

<400> 74
 GAAAAAGGGA TCCGAGCCAT CATCG 25

<210> 75
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 74275; MM probe is SEQ ID NO:76

<400> 75
 CAGTATCGCA CCGAGCGCAA AATTT 25

<210> 76
 <211> 25
 <212> DNA
 <213> Artificial Sequence

SEQ_LISTING_LBNL_039VPC

```

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 74275; PM probe is SEQ ID NO:75

<400>   76
CAGTATCGCA CCCAGCGCAA AATTT                                25

<210>   77
<211>   25
<212>   DNA
<213>   Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 74276; MM probe is SEQ ID NO:78

<400>   77
AAATTTTGCG CTCGGTGCGA TACTG                                25

<210>   78
<211>   25
<212>   DNA
<213>   Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 74276; PM probe is SEQ ID NO:77

<400>   78
AAATTTTGCG CTGGGTGCGA TACTG                                25

<210>   79
<211>   25
<212>   DNA
<213>   Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 80839; MM probe is SEQ ID NO:80

<400>   79
AATCAGCTTC TGAGAAACCG GTTGT                                25

<210>   80
<211>   25
<212>   DNA
<213>   Artificial Sequence

<220>
<221>
<222>
<223>   Description of Artificial Sequence: Synthetic oligonucleotide
        Pair ID: 80839; PM probe is SEQ ID NO:79

<400>   80

```

	SEQ_LISTING_LBNL_039VPC	
AATCAGCTTC TGTGAAACCG GTTGT		25
<210>	81	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 80840; MM probe is SEQ ID NO:82	
<400>	81	
ACAACCGGTT TCTCAGAAGC TGATT		25
<210>	82	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 80840; PM probe is SEQ ID NO:81	
<400>	82	
ACAACCGGTT TCACAGAAGC TGATT		25
<210>	83	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 83957; MM probe is SEQ ID NO:84	
<400>	83	
CTCAACAGGC ATCACATCAG ATAAT		25
<210>	84	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<221>		
<222>		
<223>	Description of Artificial Sequence: Synthetic oligonucleotide Pair ID: 83957; PM probe is SEQ ID NO:83	
<400>	84	
CTCAACAGGC ATGACATCAG ATAAT		25
<210>	85	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	

SEQ_LISTING_LBNL_039VPC

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 83958; MM probe is SEQ ID NO:86

<400> 85
 ATTATCTGAT GTGATGCCTG TTGAG 25

<210> 86
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 83958; PM probe is SEQ ID NO:85

<400> 86
 ATTATCTGAT GTCATGCCTG TTGAG 25

<210> 87
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 93455; MM probe is SEQ ID NO:88

<400> 87
 TTTCTGTAAA ACAGGCATGG ATATC 25

<210> 88
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 93455; PM probe is SEQ ID NO:87

<400> 88
 TTTCTGTAAA ACTGGCATGG ATATC 25

<210> 89
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 93456; MM probe is SEQ ID NO:90

<400> 89
 GATATCCATG CCTGTTTTAC AGAAA 25

SEQ_LISTING_LBNL_039VPC

```

<210> 90
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 93456; PM probe is SEQ ID NO:89

<400> 90
GATATCCATG CCAGTTTTAC AGAAA                25

<210> 91
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 140612; MM probe is SEQ ID NO:92

<400> 91
CTCAACATCC TCAAAATAGT TGGCA                25

<210> 92
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 140612; PM probe is SEQ ID NO:91

<400> 92
CTCAACATCC TCTAAATAGT TGGCA                25

<210> 93
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 140613; MM probe is SEQ ID NO:94

<400> 93
TGCCAACTAT TTTGAGGATG TTGAG                25

<210> 94
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

```

SEQ_LISTING_LBNL_039VPC

<221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 140613; PM probe is SEQ ID NO:93

<400> 94
 TGCCAACATAT TTAGAGGATG TTGAG 25

<210> 95
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 193149; MM probe is SEQ ID NO:96

<400> 95
 ATTTTCATCAT CAGTATCGCA CCGAG 25

<210> 96
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 193149; PM probe is SEQ ID NO:95

<400> 96
 ATTTTCATCAT CACTATCGCA CCGAG 25

<210> 97
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 193150; MM probe is SEQ ID NO:98

<400> 97
 CTCGGTGCGA TACTGATGAT GAAAT 25

<210> 98
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <221>
 <222>
 <223> Description of Artificial Sequence: Synthetic oligonucleotide
 Pair ID: 193150; PM probe is SEQ ID NO:97

<400> 98
 CTCGGTGCGA TAGTGATGAT GAAAT 25

SEQ_LISTING_LBNL_039VPC

```

<210> 99
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 195043; MM probe is SEQ ID NO:100

<400> 99
TAAAACAGGC ATGGATATCT GTGTA 25

<210> 100
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<221>
<222>
<223> Description of Artificial Sequence: Synthetic oligonucleotide
      Pair ID: 195043; PM probe is SEQ ID NO:99

<400> 100
TAAAACAGGC ATCGATATCT GTGTA 25

```