

57 Patent Filings Linked to the Legacy of Uppsala University (Sweden) (1), Danisco (Denmark) (31), and DuPont (USA) (25)

1. FEED ADDITIVE COMPRISING ENZYME COMBINATIONS

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|--|-------------------------|-------------------------|---------------------------------|----------------|
| YU SHUKUN [DK] KRAGH KARSTEN [DK] (+3) | DUPONT NUTRITION BIOSCI APS [DK] DANISCO US INC [US] | A23K20/189 A23K50/10 | A23K20/189 A23K50/10 | WO2023225510 (A1) 2023-11-23 | 2022-05-17 |

2. GLUCOAMYLASES AND METHODS OF USE THEREOF

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|---------------------|---|------|-------------------------------|----------------|
| JING GE XIAOGANG GU (+8) YU SHUKUN | DANISCO US INC [US] | C12N1/16 C12N1/20 C12P19/02 (+4) | | ZA202005674 (B) 2023-02-22 | 2018-03-09 |

3. ASPARTIC PROTEASES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---------------------|---|----------|------------------------------|----------------|
| GU XIAOGANG [CN] ZOU ZHENGZHENG [CN] (+3) YU SHUKUN | DANISCO US INC [US] | A23K10/30 A23K20/189 C12N9/6478 (+1) | C12N9/64 | DK3478831 (T3) 2021-04-19 | 2016-06-30 |

4. NOVEL METALLOPROTEASES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---------------------|--|--|------------------------------|----------------|
| BABE LILIA M [US] GHIRNIKAR ROOPA [US] (+4) YU SHUKUN | DANISCO US INC [US] | A23K20/189 A23K50/75 C11D3/386 (+9) | A23K20/189 A23K50/75 C11D3/386 (+3) | EP3882346 (A1) 2021-09-22 | 2013-05-29 |

5. ANTI-OXIDANT

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|------------|-----------|--|------------------------------|----------------|
| SOREN MOLLER ANDERSEN TORBEN ISAK (+2) YU SHUKUN | DANISCO | C09K15/06 | A23L27/60 A23L3/3481 C09K15/06 (+2) | HK1042920 (A1) 2002-08-30 | 1999-03-19 |

6. TRYPSIN-LIKE SERINE PROTEASES AND USES THEREOF

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---------------------|---|------------------------------------|--|----------------|
| SHIPOVSKOV STEPAN [US] ZOU ZHENGZHENG [US] (+1) YU SHUKUN | DANISCO US INC [US] | C11D2111/12 C11D2111/14 C11D3/38636 (+2) | C11D11/00 C11D3/386 C12N9/54 | US2020216827 (A1) 2020-07-09 US11453871 (B2) 2022-09-27 | 2017-03-15 |

7. NOVEL METALLOPROTEASES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|---------------------|---|-----------------------------------|---------------------------------|----------------|
| BABE LILIA MARIA [US] BOTT RICHARD R [US] (+5) YU SHUKUN | DANISCO US INC [US] | C11D3/386 C12N9/54 C12Y304/24 (+1) | C11D3/386 C12N9/54 D06L4/40 | US2020115693 (A1) 2020-04-16 | 2013-05-29 |

8. NOVEL METALLOPROTEASES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---------------------|--|--|---------------------------------|----------------|
| BABE LILIA M [US] GHIRNIKAR ROOPA SANTOSH [US] (+4) YU SHUKUN | DANISCO US INC [US] | A23K10/14 A23K20/189 C11D3/386 (+2) | A23K10/14 A23K20/189 C11D3/386 (+1) | US2019264187 (A1) 2019-08-29 | 2013-05-29 |

9. Novel metalloproteases

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|----------------|------|-----------------------|-------------------------------|----------------|
| BABE LILIA M BOTT RICHARD R (+5) YU SHUKUN | DANISCO US INC | | C11D3/386 C12N9/54 | CN105452456 (A) 2016-03-30 | 2013-05-29 |

10. ADDITIVE

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|--|-----------------------------------|--|--|---|-------------------------------------|
| Inventor: SHUKUN YU [DK] CHARLOTTE HORSMANS POULSEN [DK] (+3) | Applicant: DANISCO [DK] | CPC: <u>A23K10/10</u> <u>A23K20/189</u> <u>A23L29/06</u> (+3) | IPC: <u>A23L1/305</u> <u>A23L29/00</u> <u>A23L3/3571</u> (+1) | Publication info: AR087928 (A1) 2014-04-30 | Priority date: 2010-09-06 |
|--|-----------------------------------|--|--|---|-------------------------------------|

11. METHOD OF DETECTING PHYTASE ACTIVITY OR PROTEASE ACTIVITY

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|------------------------------------|---|--|---|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] | Applicant: YU SHUKUN [SE] DANISCO [DK] | CPC: <u>C12Q1/37</u> <u>C12Q1/42</u> <u>C12Q1/68</u> (+3) | IPC: <u>C12Q1/37</u> <u>C12Q1/44</u> <u>G01N11/00</u> (+3) | Publication info: US2012264153 (A1) 2012-10-18 US9896714 (B2) 2018-02-20 | Priority date: 2009-12-23 |
|------------------------------------|---|--|---|---|-------------------------------------|

12. Sequences

| | | | | | |
|---|-------------------------------------|---|--|---|-------------------------------------|
| Inventor: JOHN MORGAN ANDREW CHRISTIAN PEDERSEN HANS (+1) YU SHUKUN | Applicant: DANISCO CO LTD | CPC: <u>C07H3/08</u> <u>C12N9/88</u> <u>C12P17/06</u> | IPC: <u>A01C1/00</u> <u>A01N35/02</u> <u>A01N43/08</u> (+4) | Publication info: CN102511482 (A) 2012-06-27 | Priority date: 2001-10-31 |
|---|-------------------------------------|---|--|---|-------------------------------------|

13. Oxidation process

| | | | | | |
|---|------------------------------|--|--|---|-------------------------------------|
| Inventor: DALGAARD MIKKELSEN JOERN MATHIAS KRAGH KARSTEN (+4) YU SHUKUN | Applicant: DANISCO | CPC: <u>C12N11/14</u> <u>C12N9/0006</u> <u>C12P19/00</u> | IPC: <u>C12N15/53</u> <u>C12N15/63</u> <u>C12N9/02</u> (+3) | Publication info: CN102083996 (A) 2011-06-01 | Priority date: 2008-04-30 |
|---|------------------------------|--|--|---|-------------------------------------|

14. PYRANOSONE DEHYDRATASE DERIVED FROM PHANEROCHAETE CHRYSOSPORIUM

| | | | | | |
|---|------------------------------|--|---|--|-------------------------------------|
| Inventor: MORGAN ANDREW JOHN YU SHUKUN (+2) | Applicant: DANISCO | CPC: <u>C12N9/88</u> <u>C12P17/06</u> | IPC: <u>A01C1/06</u> <u>A01N43/16</u> <u>A01N63/00</u> (+13) | Publication info: JP2010193887 (A) 2010-09-09 | Priority date: 2001-10-31 |
|---|------------------------------|--|---|--|-------------------------------------|

15. Process for the production of ascopyrone p

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|---|------------------------------|--|---|---|-------------------------------------|
| Inventor: MORGAN ANDREW JOHN YU SHUKUN | Applicant: DANISCO | CPC: <u>C12N9/88</u> <u>C12P17/06</u> | IPC: <u>C12N9/88</u> <u>C12P17/06</u> (IPC1-7): <u>C12N9/88</u> (+1) | Publication info: AU2002335992 (A1) 2003-05-12 | Priority date: 2001-10-31 |
|---|------------------------------|--|---|---|-------------------------------------|

16. ALPHA-1,4-GLUCAN LYASE FROM A FUNGUS, ITS PURIFICATION GENE CLONING AND EXPRESSION IN MICROORGANISMS

| | | | | | |
|---|-----------------------------------|--|--|---|-------------------------------------|
| Inventor: BOJSEN KIRSTEN [DK] YU SHUKUN [SE] (+3) | Applicant: DANISCO [DK] | CPC: <u>C12N9/88</u> <u>C12P19/02</u> <u>Y10S530/823</u> | IPC: <u>C12N15/09</u> <u>C12N15/60</u> <u>C12N9/00</u> (+5) | Publication info: DE69435050 (T2) 2009-01-08 | Priority date: 1993-10-15 |
|---|-----------------------------------|--|--|---|-------------------------------------|

17. alpha -1,4-glucan lyase from a fungus infected algae, its purification, gene cloning and expression in microorganisms

| | | | | | |
|---|-----------------------------------|---|--|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] BOJSEN KIRSTEN [DK] (+4) | Applicant: DANISCO [DK] | CPC: <u>C12N9/00</u> <u>C12N9/88</u> <u>C12P19/02</u> | IPC: <u>C12N1/19</u> <u>C12N1/21</u> <u>C12N15/09</u> (+10) | Publication info: US6013504 (A) 2000-01-11 | Priority date: 1993-10-15 |
|---|-----------------------------------|---|--|---|-------------------------------------|

18. Use of alpha-1,4-glucan lyase for preparation of 1,5-D-anhydrofructose

| | | | | | |
|---|-----------------------------------|---|---|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] BOJSEN KIRSTEN [DK] (+5) | Applicant: DANISCO [US] | CPC: <u>C12N9/00</u> <u>C12N9/88</u> <u>C12P19/02</u> | IPC: <u>C12N9/00</u> <u>C12N9/88</u> <u>C12P19/02</u> (+2) | Publication info: US2003207409 (A1) 2003-11-06 | Priority date: 1993-10-15 |
|---|-----------------------------------|---|---|---|-------------------------------------|

19. A-1,4-glucan lyase and its use in the production of 1,5-androfructose

| | | | | | |
|---|-----------------------------------|--------------------------------|---|--|-------------------------------------|
| Inventor: YU SHUKUN [SE] BOJSEN KIRSTEN [DK] (+1) | Applicant: DANISCO [DK] | CPC: <u>C12N9/88</u> | IPC: <u>C12N1/21</u> <u>C12N9/88</u> (IPC1-7): <u>C07K17/00</u> (+4) | Publication info: US6541237 (B1) 2003-04-01 | Priority date: 1994-10-15 |
|---|-----------------------------------|--------------------------------|---|--|-------------------------------------|

20. SYNTHESIS OF COPOLYMERS CONTAINING ANHYDROFRUCTOSE DERIVATIVES

| | | | | | |
|--|-----------------------------------|---|---|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] GLUMER ANKE [DE] (+1) | Applicant: DANISCO [DK] | CPC: C07D309/30 C08F216/14 C08F218/08 (+3) | IPC: C07D309/30 C07D309/32 C08F2/00 (+8) | Publication info: PT1226194 (E) 2004-08-31 | Priority date: 1999-11-04 |
|--|-----------------------------------|---|---|---|-------------------------------------|

21. Antimicrobial agent

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|---|------------------------------|--|--|--|-------------------------------------|
| Inventor: ELSSER DIETER MORGAN ANDREW JOHN (+1) YU SHUKUN | Applicant: DANISCO | CPC: A01N43/16 A23L3/3544 A23L3/3562 (+2) | IPC: A01N43/16 A23K1/00 A23K1/16 (+9) | Publication info: NZ275423 (A) 2005-03-24 | Priority date: 2000-09-27 |
|---|------------------------------|--|--|--|-------------------------------------|

22. USE OF PURE ALPHA-1,4-GLUCAN LYASE FOR PREPARING 1,5-D-ANHYDROFRUCTOSE

| | | | | | |
|---|------------------------------|--|---|--|-------------------------------------|
| Inventor: YU SHUKUN BOJSEN KIRSTEN (+3) | Applicant: DANISCO | CPC: C12N9/00 C12N9/88 C12P19/02 | IPC: A23L2/42 A23L2/60 A23L27/00 (+17) | Publication info: NZ275423 (A) 1997-12-19 | Priority date: 1993-10-15 |
|---|------------------------------|--|---|--|-------------------------------------|

23. USE OF A CYCLIC ETHER FOR THE PREPARATION OF MEDICAMENTS AFFECTING GLUCOSE TOLERANCE

| | | | | | |
|---|--|--|--|--|-------------------------------------|
| Inventor: AHREN BO [SE] YU SHUKUN [SE] (+1) | Applicant: DANISCO [DK] AHREN BO [SE] (+1) | CPC: A61K31/70 A61P3/08 A61P3/10 (+2) | IPC: A61K31/351 A61K31/70 A61P3/10 (+4) | Publication info: WO0151058 (A1) 2001-07-19 | Priority date: 2000-01-14 |
|---|--|--|--|--|-------------------------------------|

24. 1,5-ANHYDRO-D-FRUCTOSE SUBSTITUTED WITH A HYDROPHOBIC GROUP FOR USE AS ANTI-OXIDANT AND/OR EMULSIFIER

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|---|--|--|--|--|-------------------------------------|
| Inventor: ANDERSEN SOEREN MOELLER [DK] MARCUSSEN JAN [DK] (+1) YU SHUKUN | Applicant: DANISCO [DK] ANDERSEN SOEREN MOELLER [DK] (+3) | CPC: A23L3/3481 A23L3/3562 Y02A40/90 | IPC: A23L27/60 A23L29/10 A23L3/3481 (+12) | Publication info: WO0056745 (A1) 2000-09-28 | Priority date: 1999-03-19 |
|---|--|--|--|--|-------------------------------------|

25. ANTIMICROBIAL FORMULATION COMPRISING MICROTHECIN OR DERIVATIVES THEREOF AND THEIR USES IN PREVENTION AND THERAPY

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|---|--|---|---|---|-------------------------------------|
| Inventor: MORGAN ANDREW JOHN [GB] TURNER MARK [DK] (+2) YU SHUKUN | Applicant: DANISCO [DK] MORGAN ANDREW JOHN [GB] (+4) | CPC: A01N43/16 A01N63/50 C07H3/08 (+3) | IPC: A01N43/16 A01N63/50 C07H3/08 (+7) | Publication info: WO2004083226 (A1) 2004-09-30 | Priority date: 2003-03-19 |
|---|--|---|---|---|-------------------------------------|

26. MATERIAL

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|--|---|---|---|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] BUCHTER-LARSEN AKSEL [DK] (+5) | Applicant: DANISCO [DK] YU SHUKUN [SE] (+6) | CPC: A01N2300/00 A01N25/22 | IPC: A01N43/16 C07H3/08 (IPC1- A01N43/16 (+3) | Publication info: WO2004039820 (A1) 2004-05-13 | Priority date: 2002-10-30 |
|--|---|---|---|---|-------------------------------------|

27. POLYNUCLEOTIDE ENCODING A PYRANOSONE DEHYDRATASE

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|--|---|---|--|---|-------------------------------------|
| Inventor: YU SHUKUN [SE] HANSEN EGON BECH [DK] (+3) | Applicant: DANISCO [DK] YU SHUKUN [SE] (+4) | CPC: A01N2300/00 A01N43/16 C07H3/08 (+3) | IPC: A01N43/16 C07H3/08 C12N9/88 (+5) | Publication info: WO2004039993 (A1) 2004-05-13 | Priority date: 2002-10-30 |
|--|---|---|--|---|-------------------------------------|

28. 1,5-ANHYDRO-D-FRUCTOSE DEHYDRATASE

| | | | | | |
|--|---|--------------------------------------|--|---|-------------------------------------|
| Inventor: MORGAN ANDREW JOHN [DK] REFDAHL CHARLOTTE [DK] YU SHUKUN | Applicant: DANISCO [DK] MORGAN ANDREW JOHN [DK] (+2) | CPC: C12N9/88 C12P17/06 | IPC: C12N9/88 C12P17/06 (IPC1- 7): C07D309/00 (+1) | Publication info: WO03038085 (A1) 2003-05-08 | Priority date: 2001-10-31 |
|--|---|--------------------------------------|--|---|-------------------------------------|

29. ANTIMICROBIAL USE OF ANHYDROFRUCTOSE DERIVATIVES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|---|--|---|-------------------------------|-----------------------|
| BUCHTER-LARSEN AKSEL [DK] MORGAN ANDREW JOHN [DK] YU SHUKUN | DANISCO [DK] BUCHTER-LARSEN AKSEL [DK] (+2) | <u>A01N43/16</u> <u>A23L3/3481</u> <u>A23L3/3562</u> (+3) | A01N43/16 A23L3/3481 A23L3/3562 (+8) | WO03037906 (A1) 2003-05-08 | 2001-10-31 |

30. ASCOPYRONE P SYNTHASE

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---------------------------------------|--------------------------------------|--|-----------------------|-------------------------------|-----------------------|
| MORGAN ANDREW JOHN [DK] REFDAHL | DANISCO [DK] MORGAN ANDREW | <u>C12N9/90</u> <u>C12P17/06</u> <u>C12P7/26</u> | C12N9/90 C12P17/06 | WO03038084 (A1) 2003-05-08 | 2001-10-31 |
| CHARLOTTE [DK] YU SHUKUN | JOHN [DK] (+2) | | C12P7/26 (+1) | | |

31. Pyranosone dehydratase from phanerochaete chrysosporium

| Inventor: | Applicant: | CPC: | IPC: |
|---|---------------------|-------------------------------------|--|
| MORGAN ANDREW JOHN [GB] YU SHUKUN [SE] (+2) | DANISCO [DK] | <u>C12N9/88</u> <u>C12P17/06</u> | A01N63/00 C07K16/40 C12N1/15 (+9) |

1. METHODS OF USING THERMOSTABLE SERINE PROTEASES

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|---|---|-------------|-------------------------------|-----------------------|
| JACOB FLYVHOLM CRAMER MARC ANTON BERNHARD KOLKMAN (+4) YU SHUKUN | DUPONT NUTRITION BIOSCI APS [DK] | <u>A23J3/34</u> <u>A23J3/347</u> <u>A23K20/189</u> (+18) | | ZA201903984 (B) 2023-12-20 | 2016-12-21 |

2. FAT COATED PARTICULATE ENZYME COMPOSITIONS.

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---|---|--|--------------------------------|-----------------------|
| YU SHUKUN [DK] POULSEN CHARLOTTE HORSMANS (+5) | DUPONT NUTRITION BIOSCI APS [DK] | <u>A23K10/18</u> <u>A23K10/22</u> <u>A23K10/26</u> (+14) | <u>A23K10/18</u> <u>A23K20/105</u> <u>A23K20/111</u> (+7) | MX2022000355 (A) 2022-03-17 | 2019-07-09 |

3. FEED ADDITIVE COMPRISING ENZYME COMBINATIONS

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|--|---------------------------------------|---------------------------------------|---------------------------------|-----------------------|
| YU SHUKUN [DK] KRAGH KARSTEN [DK] (+3) | DUPONT NUTRITION BIOSCI APS [DK] DANISCO US INC [US] | <u>A23K20/189</u> <u>A23K50/10</u> | <u>A23K20/189</u> <u>A23K50/10</u> | WO2023225510 (A1) 2023-11-23 | 2022-05-17 |

4. USE OF INOCULANTS AND ENZYMES TO INCREASE NUTRIENT RELEASE IN ANIMAL DIETS.

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|---|---|---|--------------------------------------|--------------------------------|-----------------------|
| YU SHUKUN [SE] KRAGH KARSTEN MATTHIAS | DUPONT NUTRITION BIOSCI APS [DK] | <u>A23K10/12</u> <u>A23K50/10</u> <u>C12N9/2414</u> (+3) | <u>A23K10/12</u> <u>A23K50/10</u> | MX2020001605 (A) 2020-08-03 | 2017-08-14 |

5. USE OF LOW PH ACTIVE ALPHA-1,4/1,6-GLYCOSIDE HYDROLASES AS A FEED ADDITIVE FOR RUMINANTS TO ENHANCE STARCH DIGESTION

| Inventor: | Applicant: | CPC: | IPC: | Publication info: | Priority date: |
|--|---|---|-------------|-------------------------------|-----------------------|
| SHUKUN YU KRISTEN MATTHIAS KRAGH (+1) | DUPONT NUTRITION BIOSCI APS [DK] | <u>A23K20/189</u> <u>A23K50/10</u> <u>A61K38/45</u> (+5) | | ZA201901909 (B) 2022-06-29 | 2016-09-23 |

6. METHODS OF USING AN ARCHAEOAL SERINE PROTEASE

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|--|--|---|--|--|-------------------------------------|
| Inventor: GU XIAOGANG [US] ZOU ZHENGZHENG [CN] (+2) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23J3/346 A23K10/18 A23K20/147 (+5) | IPC: A23K10/18 C12N9/64 | Publication info: DK3596211 (T3) 2021-09-06 | Priority date: 2017-03-15 |
|--|--|---|--|--|-------------------------------------|

7. METHOD OF PREPARING FEED ADDITIVE

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|---|---|--|--|--|-------------------------------------|
| Inventor: ROMERO MILLAN LUIS FERNANDO YU SHUKUN (+4) | Applicant: DUPONT NUTRITION BIOSCI APS | CPC: A23K10/32 A23K50/30 A23K50/75 (+5) | IPC: A23K10/10 A23K20/168 | Publication info: ES2851389 (T3) 2021-09-06 | Priority date: 2013-06-21 |
|---|---|--|--|--|-------------------------------------|

8. METHODS AND USES FOR KERATIN EMPLOYING PROTEASES

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|---|--|--|--|---|-------------------------------------|
| Inventor: HANSTED JON GADE [DK] KRAGH KARSTEN MATTHIAS [DK] (+1) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23J3/341 C07K14/4741 C12P21/06 (+3) | IPC: A23J3/34 C12P21/06 | Publication info: US2020383352 (A1) 2020-12-10 | Priority date: 2015-01-07 |
|---|--|--|--|---|-------------------------------------|

9. PROLINE TOLERANT TRIPEPTIDYL PEPTIDASES AND USES THEREOF

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|--|--|--|--|--|-------------------------------------|
| Inventor: HAANING SVEND KRAGH KARSTEN MATTHIAS (+9) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23J3/34 A23K10/14 A23K20/147 (+7) | IPC: A23J3/34 A23K10/14 C12N9/48 (+1) | Publication info: ES2791891 (T3) 2020-11-06 | Priority date: 2014-10-24 |
|--|--|--|--|--|-------------------------------------|

10. TRYPSIN-LIKE SERINE PROTEASES AND USES THEREOF CROSS-REFERENCE TO RELATED APPLICATION.

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|---|--|---|---|--|-------------------------------------|
| Inventor: SHUKUN YU [SE] XIAOGANG GU (+1) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23K20/189 C12N9/52 C12Y304/21 | IPC: A23K20/189 C12N9/52 | Publication info: MX2019010815 (A) 2020-02-20 | Priority date: 2017-03-15 |
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11. METHOD OF FEEDING

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|--|---|--|--|--|-------------------------------------|
| Inventor: GILBERT CEINWEN PLUMSTEAD PETER (+5) | Applicant: DUPONT NUTRITION BIOSCI APS | CPC: A23K10/14 A23K20/168 A23K20/189 (+8) | IPC: A23K10/14 A23K20/168 A23K20/189 (+8) | Publication info: ES2736036 (T3) 2019-12-23 | Priority date: 2012-01-05 |
|--|---|--|--|--|-------------------------------------|

12. METHOD FOR THE DEGRADATION OF KERATIN AND USE OF THE KERATIN HYDROLYSATE PRODUCED

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|---|--|---|--|---|-------------------------------------|
| Inventor: CHARLOTTE HORSMANS POULSEN [DK] JON GADE HANSTED [DK] (+1) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23J3/34 A23K10/26 A23K40/00 (+4) | IPC: C12P21/06 | Publication info: BR112015001229 (A2) 2018-08-28 | Priority date: 2012-07-20 |
|---|--|---|--|---|-------------------------------------|

13. FOOD ADDITIVE COMPRISING AN AMIDASE FOR DETOXIFYING OCHRATOXIN.

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|--|---|---|--|--|-------------------------------------|
| Inventor: YU SHUKUN [SE] POULSEN CHARLOTTE HORSMANS [DK] (+3) | Applicant: DUPONT NUTRITION BIOSCIENCES APS [DK] | CPC: A23K10/10 A23K20/189 A23L29/06 (+3) | IPC: A23L29/00 A23L5/20 | Publication info: PL2613647 (T3) 2018-07-31 | Priority date: 2010-09-06 |
|--|---|---|--|--|-------------------------------------|

14. METHOD

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|--|--|---|--|---|-------------------------------------|
| Inventor: CHARLOTTE HORSMANS POULSEN [DK] HANS CHRISTIAN BEJDER [DK] (+1) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23C13/16 A23C17/02 A23C9/1206 (+7) | IPC: A23C17/02 A23C9/12 | Publication info: BR112017016194 (A2) 2018-07-10 | Priority date: 2015-01-30 |
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15. METHODS AND COMPOSITIONS TO IMPROVE THE NUTRITIONAL VALUE OF LIGNOCELLULOSIC BIOMASS

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| Inventor: BENJAMIN S BOWER [US] COLIN MITCHINSON [US] (+4) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: A23K10/10 A23K10/14 A23K10/32 (+4) | IPC: A23K10/32 | Publication info: BR112015031628 (A2) 2017-11-07 BR112015031628 (B1) 2021-06-29 | Priority date: 2013-06-21 |
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16. METHOD

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| Inventor: CHARLOTTE HORSMANS POULSEN [DK] JON GADE HANSTED [DK] YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: <u>A23K10/26</u> <u>A23K20/147</u> <u>A23K50/30</u> (+5) | IPC: <u>C12P13/04</u> <u>C12P21/06</u> | Publication info: BR112015001226 (A2) 2018-08-28 | Priority date: 2012-07-20 |
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17. METHOD FOR THE DEGRADATION OF KERATIN AND USE OF THE KERATIN HYDROLYSATE PRODUCED

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| Inventor: CHARLOTTE HORSMANS POULSEN [DK] JON GADE HANSTED [DK] YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: <u>A23K10/14</u> <u>A23K10/26</u> <u>A23K20/10</u> (+5) | IPC: <u>C12P21/06</u> | Publication info: BR112015001227 (A2) 2017-12-12 | Priority date: 2012-07-20 |
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18. IN FEED ASSAY OF MICROBIAL PROTEASES USING PEPTIDE SUBSTRATES

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| Inventor: YU SHUKUN [SE] SHIPOVSKOV STEPAN [DK] (+1) | Applicant: DUPONT NUTRITION BIOSCI APS [DK] DU PONT [US] | CPC: <u>C12Q1/37</u> <u>G01N33/573</u> | IPC: <u>C12Q1/37</u> <u>G01N33/573</u> | Publication info: WO2018005229 (A1) 2018-01-04 | Priority date: 2016-06-30 |
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19. MÉTODO

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| Inventor: HELI PUTAALA [DK] PAIVI NURMINEN [DK] (+89) YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: | IPC: <u>A23J3/34</u> <u>C12N9/48</u> <u>C12P21/06</u> | Publication info: AR102422 (A1) 2017-03-01 | Priority date: 2014-10-24 |
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20. METHOD

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| Inventor: YU SHUKUN | Applicant: DUPONT NUTRITION BIOSCI APS | CPC: <u>C12Q1/37</u> <u>C12Q1/42</u> <u>C12Q1/68</u> (+3) | IPC: <u>C12Q1/37</u> <u>C12Q1/44</u> <u>C12Q1/68</u> (+3) | Publication info: ES2605236 (T3) 2017-03-13 | Priority date: 2009-12-23 |
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21. MÉTODO DE ALIMENTACIÓN DE UN ANIMAL MONOGÁSTRICO

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| Inventor: | Applicant: DUPONT NUTRITION BIOSCI APS [DK] | CPC: | IPC: | Publication info: AR097125 (A1) 2016-02-24 | Priority date: 2012-01-05 |
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 1. Glucan lyase producing 1,5-anhydrofructose

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| ★ Inventor: YU SHUKUN [SE] PEDERSEN MARIANNE [SE] (+1) | Applicant: T & M BIOPOLYMER AKTIEBOLAG [SE] | CPC: <u>C07H3/10</u> <u>C12N9/88</u> <u>C12P19/02</u> | IPC: C07H3/10 C12N9/88 C12P19/02 (+3) | Publication info: US5695970 (A) 1997-12-09 | Priority date: 1992-10-21 |
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