detected by IR-fluorescence. The intensity of the fluorescent signals was quantified using Image J software of full length and lighter vitellogenin in brain sample (C) and of full length vitellogenin in hemolymph sample (E).

Table 1: Data mass spectroscopy (GC/MS-MS)

| Sam-   | Protein name       | Access-       | Protein  | Protein     | Exclusive | Total    | Percentage | Mascot |
|--------|--------------------|---------------|----------|-------------|-----------|----------|------------|--------|
| ple    |                    | sion          | molecu-  | identifica- | unique    | spectrum | sequence   | score  |
|        |                    | number        | lar      | tion        | peptide   | count    | coverage   |        |
|        |                    |               | weight   | probability | count     |          |            |        |
| 1      | Uncharacterized    | A0A088A       | 367,625. | 100         | 135       | 218      | 47.4       | 3503   |
|        | protein OS=Apis    | S56_API       | 3        |             |           |          |            |        |
| 1      | mellifera          | ME            |          |             |           |          |            |        |
| 2      | Protein families 1 | A0A088A       | 200,959. | 100         | 5         | 104      | 45.5       | 1419   |
|        | Vitellogenin       | DL8_API<br>ME | 8        |             |           |          |            |        |
|        | OS=Apis mellifera  | WIE           |          |             |           |          |            |        |
| 2      | Protein families 1 | VIT_API       | 201,051. | 100         | 2         | 99       | 41.4       | 1269   |
|        | Vitellogenin       | ME            | 9        |             |           |          |            |        |
|        | OS=Apis mellifera  |               |          |             |           |          |            |        |
| 3      | Protein families 1 | A0A088A       | 200,959. | 100         | 4         | 56       | 31.9       | 768    |
|        | Vitellogenin       | DL8_API       | 8        |             |           |          |            |        |
|        | OS=Apis mellifera  | ME            |          |             |           |          |            |        |
| 3      | Protein families 1 | VIT_API       | 201,051. | 100         | 2         | 54       | 29.3       | 707    |
|        | Vitellogenin       | ME            | 9        |             |           |          |            |        |
|        | OS=Apis mellifera  |               |          |             |           |          |            |        |
| 4      | Pyruvate carbox-   | A0A087Z       | 131,882. | 100         | 8         | 8        | 9.7        | 98     |
|        | ylase OS=Apis      | NH6_API       | 5        |             |           |          |            |        |
|        | mellifera          | ME            |          |             |           |          |            |        |
| 4      | Protein families 1 | A0A088A       | 200,959. | 100         | 4         | 45       | 25.9       | 644    |
|        | Vitellogenin       | DL8_API       | 8        |             |           |          |            |        |
|        | OS=Apis mellifera  | ME            |          |             |           |          |            |        |
| 4      | Protein families 1 | VIT_API       | 201,051. | 100         | 2         | 43       | 23.3       | 587    |
|        | Vitellogenin       | ME            | 9        |             |           |          |            |        |
|        | OS=Apis mellifera  |               |          |             |           |          |            |        |
| Triple | Uncharacterized    | A0A088A       | 87,207.6 | 100         | 3         | 3        | 6.49       | 92     |
|        | protein OS=Apis    | 3B7_API       |          |             |           |          |            |        |
|        | mellifera          | ME            |          |             |           |          |            |        |
| Triple | 6-phosphofructoki- | A0A088A       | 98,518.8 | 100         | 2         | 2        | 2.93       | 69     |
|        | nase OS=Apis mel-  | HG6_API       |          |             |           |          |            |        |
|        | lifera             | ME            |          |             |           |          |            |        |
|        |                    |               |          |             |           |          |            |        |

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