

## Supplementary Information

Supplementary Table 1. Overview of technical variables, AI algorithm output, and corresponding ground truth in the analytical validation study.

| slide no | research no                              | tumor type                         | day of processing | day | time of day | stain  | ground truth | AI scan 1 | annotation specificity scan 1 | AI scan 2 | annotation specificity scan 2 | AI scan 3 | annotation specificity scan 3 | difference between AI scan 1 2 3 |
|----------|------------------------------------------|------------------------------------|-------------------|-----|-------------|--------|--------------|-----------|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|----------------------------------|
| 1        | P000001AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 2        | P000001AVA_S01_C0015_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 3        | P000001AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 4        | P000001AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 5        | P000002AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 6        | P000002AVA_S01_C0015_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 7        | P000002AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 8        | P000002AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 9        | P000003AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | morning     | H&E    | positive     | negative  | false                         | negative  | false                         | negative  | false                         | no                               |
| 10       | P000003AVA_S01_C0015_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 11       | P000003AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 12       | P000003AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 13       | P000004AVA_S01_C0001_B202_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 14       | P000004AVA_S01_C0015_B202_V01_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 15       | P000004AVA_S01_C0001_B202_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 16       | P000004AVA_S01_C0015_B202_V02_A15.3_E001 | invasive carcinoma NST             | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 17       | P000005AVA_S01_C0001_B302_V01_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday         | 3   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 18       | P000005AVA_S01_C0015_B302_V01_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 19       | P000005AVA_S01_C0001_B302_V02_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday         | 3   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 20       | P000005AVA_S01_C0015_B302_V02_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday         | 3   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 21       | P000001AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 22       | P000001AVA_S01_C0015_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 23       | P000001AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 24       | P000001AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 25       | P000002AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 26       | P000002AVA_S01_C0015_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 27       | P000002AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 28       | P000002AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 29       | P000003AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 30       | P000003AVA_S01_C0015_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 31       | P000003AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | afternoon   | H&E    | positive     | negative  | false                         | negative  | false                         | positive  | true                          | yes                              |
| 32       | P000003AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 33       | P000004AVA_S01_C0001_B202_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 34       | P000004AVA_S01_C0015_B202_V01_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 35       | P000004AVA_S01_C0001_B202_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 36       | P000004AVA_S01_C0015_B202_V02_A15.3_E002 | invasive carcinoma NST             | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 37       | P000005AVA_S01_C0001_B302_V01_A15.3_E002 | invasive carcinoma NST neoadjuvant | thursday          | 4   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 38       | P000005AVA_S01_C0015_B302_V01_A15.3_E002 | invasive carcinoma NST neoadjuvant | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 39       | P000005AVA_S01_C0001_B302_V02_A15.3_E002 | invasive carcinoma NST neoadjuvant | thursday          | 4   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 40       | P000005AVA_S01_C0015_B302_V02_A15.3_E003 | invasive carcinoma NST neoadjuvant | thursday          | 4   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 41       | P000001AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 42       | P000001AVA_S01_C0015_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 43       | P000001AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 44       | P000001AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 45       | P000002AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 46       | P000002AVA_S01_C0015_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 47       | P000002AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 48       | P000002AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 49       | P000003AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | morning     | H&E    | positive     | negative  | false                         | negative  | false                         | negative  | false                         | no                               |
| 50       | P000003AVA_S01_C0015_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 51       | P000003AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | afternoon   | H&E    | positive     | negative  | false                         | negative  | false                         | negative  | false                         | no                               |
| 52       | P000003AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 53       | P000004AVA_S01_C0001_B202_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 54       | P000004AVA_S01_C0015_B202_V01_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | postief      |           |                               |           |                               |           |                               |                                  |
| 55       | P000004AVA_S01_C0001_B202_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 56       | P000004AVA_S01_C0015_B202_V02_A15.3_E003 | invasive carcinoma NST             | friday            | 5   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 57       | P000005AVA_S01_C0001_B302_V01_A15.3_E003 | invasive carcinoma NST neoadjuvant | friday            | 5   | morning     | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 58       | P000005AVA_S01_C0015_B302_V01_A15.3_E003 | invasive carcinoma NST neoadjuvant | friday            | 5   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 59       | P000005AVA_S01_C0001_B302_V02_A15.3_E003 | invasive carcinoma NST neoadjuvant | friday            | 5   | afternoon   | H&E    | positive     | positive  | true                          | positive  | true                          | positive  | true                          | no                               |
| 60       | P000005AVA_S01_C0015_B302_V02_A15.3_E004 | invasive carcinoma NST neoadjuvant | friday            | 5   |             | CK8-18 | positive     |           |                               |           |                               |           |                               |                                  |
| 61       | P000001AVA_S01_C0001_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday            | 1   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 62       | P000001AVA_S01_C0015_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday            | 1   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 63       | P000001AVA_S01_C0001_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday            | 1   | afternoon   | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 64       | P000001AVA_S01_C0015_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday            | 1   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |
| 65       | P000002AVA_S01_C0001_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday            | 1   | morning     | H&E    | negative     | negative  | true                          | negative  | true                          | negative  | true                          | no                               |
| 66       | P000002AVA_S01_C0015_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday            | 1   |             | CK8-18 | negative     |           |                               |           |                               |           |                               |                                  |

|     |                                           |                                    |           |   |           |        |          |          |       |            |       |          |       |     |
|-----|-------------------------------------------|------------------------------------|-----------|---|-----------|--------|----------|----------|-------|------------|-------|----------|-------|-----|
| 67  | P000002AVA_S01_C0001_B201_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 68  | P000002AVA_S01_C0015_B201_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 |           |        |          |          |       |            |       |          |       |     |
| 69  | P000003AVA_S01_C0001_B201_V01_A15.3_E004  | invasive carcinoma NST             | monday    | 1 | morning   | CK8-18 | negative | positive | true  | negative   | false | positive | true  | yes |
| 70  | P000003AVA_S01_C0015_B201_V01_A15.3_E004  | invasive carcinoma NST             | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 71  | P000003AVA_S01_C0001_B201_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 | afternoon | H&E    | positive | negative | false | negative   | false | negative | false | no  |
| 72  | P000003AVA_S01_C0015_B201_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 73  | P000004AVA_S01_C0001_B202_V01_A15.3_E004  | invasive carcinoma NST             | monday    | 1 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 74  | P000004AVA_S01_C0015_B202_V01_A15.3_E004  | invasive carcinoma NST             | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 75  | P000004AVA_S01_C0001_B202_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 76  | P000004AVA_S01_C0015_B202_V02_A15.3_E004  | invasive carcinoma NST             | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 77  | P000005AVA_S01_C0001_B302_V01_A15.3_E004  | invasive carcinoma NST neoadjuvant | monday    | 1 | morning   | H&E    | positive | positive | true  | positive   |       | positive | true  | no  |
| 78  | P000005AVA_S01_C0015_B302_V01_A15.3_E004  | invasive carcinoma NST neoadjuvant | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 79  | P000005AVA_S01_C0001_B302_V02_A15.3_E004  | invasive carcinoma NST neoadjuvant | monday    | 1 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 80  | P000005AVA_S01_C0015_B302_V02_A15.3_E005  | invasive carcinoma NST neoadjuvant | monday    | 1 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 81  | P0000011AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 82  | P0000011AVA_S01_C0015_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 83  | P0000011AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 84  | P0000011AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 85  | P0000022AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 86  | P0000022AVA_S01_C0015_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 87  | P0000022AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 88  | P0000022AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 89  | P0000033AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | morning   | H&E    | positive | negative | false | negative   | false | negative | false | no  |
| 90  | P0000033AVA_S01_C0015_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 91  | P0000033AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | afternoon | H&E    | positive | negative | false | negativeif | false | negative | false | no  |
| 92  | P0000033AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 93  | P0000044AVA_S01_C0001_B202_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 94  | P0000044AVA_S01_C0015_B202_V01_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 95  | P0000044AVA_S01_C0001_B202_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 96  | P0000044AVA_S01_C0015_B202_V02_A15.3_E005 | invasive carcinoma NST             | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 97  | P0000055AVA_S01_C0001_B302_V01_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday   | 2 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 98  | P0000055AVA_S01_C0015_B302_V01_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 99  | P0000055AVA_S01_C0001_B302_V02_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday   | 2 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 100 | P0000055AVA_S01_C0015_B302_V02_A15.3_E001 | invasive carcinoma NST neoadjuvant | tuesday   | 2 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 101 | P0000011AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 102 | P0000011AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 |           | ck8-18 | negative |          |       |            |       |          |       |     |
| 103 | P0000011AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 104 | P0000022AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 105 | P0000022AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 106 | P0000022AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 107 | P0000033AVA_S01_C0001_B201_V01_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 108 | P0000033AVA_S01_C0015_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 109 | P0000033AVA_S01_C0001_B201_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 110 | P0000044AVA_S01_C0001_B202_V01_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 111 | P0000044AVA_S01_C0015_B202_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 112 | P0000044AVA_S01_C0001_B202_V02_A15.3_E001 | invasive carcinoma NST             | wednesday | 3 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 113 | P0000055AVA_S01_C0001_B302_V01_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday | 3 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 114 | P0000055AVA_S01_C0015_B302_V02_A15.3_E001 | invasive carcinoma NST neoadjuvant | wednesday | 3 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 115 | P0000055AVA_S01_C0001_B302_V02_A15.3_E002 | invasive carcinoma NST neoadjuvant | wednesday | 3 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 116 | P0000011AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 117 | P0000011AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 118 | P0000011AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 119 | P0000022AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 120 | P0000022AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 121 | P0000022AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 122 | P0000033AVA_S01_C0001_B201_V01_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 123 | P0000033AVA_S01_C0015_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 124 | P0000033AVA_S01_C0001_B201_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 125 | P0000044AVA_S01_C0001_B202_V01_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 126 | P0000044AVA_S01_C0015_B202_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 127 | P0000044AVA_S01_C0001_B202_V02_A15.3_E002 | invasive carcinoma NST             | thursday  | 4 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 128 | P0000055AVA_S01_C0001_B302_V01_A15.3_E002 | invasive carcinoma NST neoadjuvant | thursday  | 4 | morning   | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 129 | P0000055AVA_S01_C0015_B302_V02_A15.3_E002 | invasive carcinoma NST neoadjuvant | thursday  | 4 |           | CK8-18 | positive |          |       |            |       |          |       |     |
| 130 | P0000055AVA_S01_C0001_B302_V02_A15.3_E003 | invasive carcinoma NST neoadjuvant | thursday  | 4 | afternoon | H&E    | positive | positive | true  | positive   | true  | positive | true  | no  |
| 131 | P0000011AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 132 | P0000011AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 133 | P0000011AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 134 | P0000022AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 135 | P0000022AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 136 | P0000022AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 137 | P0000033AVA_S01_C0001_B201_V01_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | morning   | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |
| 138 | P0000033AVA_S01_C0015_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 |           | CK8-18 | negative |          |       |            |       |          |       |     |
| 139 | P0000033AVA_S01_C0001_B201_V02_A15.3_E003 | invasive carcinoma NST             | friday    | 5 | afternoon | H&E    | negative | negative | true  | negative   | true  | negative | true  | no  |

|     |                                          |                                    |         |   |           |        |          |                |      |                |      |                |      |    |
|-----|------------------------------------------|------------------------------------|---------|---|-----------|--------|----------|----------------|------|----------------|------|----------------|------|----|
| 140 | P000004AVA_S01_C0001_B202_V01_A15.3_E003 | invasive carcinoma NST             | friday  | 5 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 141 | P000004AVA_S01_C0015_B202_V02_A15.3_E003 | invasive carcinoma NST             | friday  | 5 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 142 | P000004AVA_S01_C0001_B202_V02_A15.3_E003 | invasive carcinoma NST             | friday  | 5 | afternoon | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 143 | P000005AVA_S01_C0001_B302_V01_A15.3_E003 | invasive carcinoma NST neoadjuvant | friday  | 5 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 144 | P000005AVA_S01_C0015_B302_V02_A15.3_E003 | invasive carcinoma NST neoadjuvant | friday  | 5 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 145 | P000005AVA_S01_C0001_B302_V02_A15.3_E004 | invasive carcinoma NST neoadjuvant | friday  | 5 | afternoon | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 146 | P000001AVA_S01_C0001_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 147 | P000001AVA_S01_C0015_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 148 | P000001AVA_S01_C0001_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 149 | P000002AVA_S01_C0001_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 150 | P000002AVA_S01_C0015_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 151 | P000002AVA_S01_C0001_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 152 | P000003AVA_S01_C0001_B201_V01_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 153 | P000003AVA_S01_C0015_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 154 | P000003AVA_S01_C0001_B201_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 155 | P000004AVA_S01_C0001_B202_V01_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 156 | P000004AVA_S01_C0015_B202_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 157 | P000004AVA_S01_C0001_B202_V02_A15.3_E004 | invasive carcinoma NST             | monday  | 1 | afternoon | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 158 | P000005AVA_S01_C0001_B302_V01_A15.3_E004 | invasive carcinoma NST neoadjuvant | monday  | 1 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 159 | P000005AVA_S01_C0015_B302_V02_A15.3_E004 | invasive carcinoma NST neoadjuvant | monday  | 1 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 160 | P000005AVA_S01_C0001_B302_V02_A15.3_E005 | invasive carcinoma NST neoadjuvant | monday  | 1 | afternoon | H&E    | positive | scanning error |      | scanning error |      | scanning error |      | no |
| 161 | P000001AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 162 | P000001AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 163 | P000001AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 164 | P000002AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 165 | P000002AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 166 | P000002AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 167 | P000003AVA_S01_C0001_B201_V01_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | morning   | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 168 | P000003AVA_S01_C0015_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 |           | CK8-18 | negative |                |      |                |      |                |      |    |
| 169 | P000003AVA_S01_C0001_B201_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | afternoon | H&E    | negative | negative       | true | negative       | true | negative       | true | no |
| 170 | P000004AVA_S01_C0001_B202_V01_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 171 | P000004AVA_S01_C0015_B202_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 172 | P000004AVA_S01_C0001_B202_V02_A15.3_E005 | invasive carcinoma NST             | tuesday | 2 | afternoon | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 173 | P000005AVA_S01_C0001_B302_V01_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday | 2 | morning   | H&E    | positive | positive       | true | positive       | true | positive       | true | no |
| 174 | P000005AVA_S01_C0015_B302_V02_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday | 2 |           | CK8-18 | positive |                |      |                |      |                |      |    |
| 175 | P000005AVA_S01_C0001_B302_V02_A15.3_E005 | invasive carcinoma NST neoadjuvant | tuesday | 2 | afternoon | H&E    | positive | positive       | true | positive       | true | positive       | true | no |

Supplementary Table 2. Reader performance and diagnostic time with and without AI assistance in the clinical validation study. (ns = not scored)

| slide no | diagnosis report | curated diagnosis report | AI output | READER A |           |            |            |           |            | READER B |           |            |            |           |            | READER C |           |            |            |           |            | READER D |           |            |            |           |            |          |           |            |
|----------|------------------|--------------------------|-----------|----------|-----------|------------|------------|-----------|------------|----------|-----------|------------|------------|-----------|------------|----------|-----------|------------|------------|-----------|------------|----------|-----------|------------|------------|-----------|------------|----------|-----------|------------|
|          |                  |                          |           | with AI  |           |            | without AI |           |            | with AI  |           |            | without AI |           |            | with AI  |           |            | without AI |           |            | with AI  |           |            | without AI |           |            |          |           |            |
|          |                  |                          |           | time (s) | diagnosis | true/false | time (s)   | diagnosis | true/false | time (s) | diagnosis | true/false | time (s)   | diagnosis | true/false | time (s) | diagnosis | true/false | time (s)   | diagnosis | true/false | time (s) | diagnosis | true/false | time (s)   | diagnosis | true/false | time (s) | diagnosis | true/false |
| 1        | negative         | negative                 | negative  | 1        | negative  | true       | 34         | negative  | true       | 1        | negative  | true       | 53         | negative  | true       | 1        | negative  | true       | 63         | negative  | true       | 1        | negative  | true       | 53         | negative  | true       | 53       | negative  | true       |
| 2        | negative         | negative                 | ns        | ns       |           |            | 30         | negative  | true       | ns       |           |            | 52         | negative  | true       | ns       |           |            | 145        | negative  | true       | ns       |           |            | 58         | negative  | true       | 58       | negative  | true       |
| 3        | negative         | negative                 | ns        | ns       |           |            | 65         | negative  | true       | ns       |           |            | 41         | negative  | true       | ns       |           |            | 74         | negative  | true       | ns       |           |            | 48         | negative  | true       | 48       | negative  | true       |
| 4        | negative         | negative                 | ns        | ns       |           |            | 53         | negative  | true       | ns       |           |            | 53         | negative  | true       | ns       |           |            | 78         | negative  | true       | ns       |           |            | 57         | negative  | true       | 57       | negative  | true       |
| 5        | Macro            | positive                 | positive  | 1        | positive  | true       | 38         | positive  | true       | 2        | positive  | true       | 53         | positive  | true       | 2        | positive  | true       | 3          | positive  | true       | 6        | positive  | true       | 56         | positive  | true       | 56       | positive  | true       |
| 6        | Macro            | positive                 | positive  | 2        | positive  | true       | 3          | positive  | true       | 1        | positive  | true       | 4          | positive  | true       | 1        | positive  | true       | 1          | positive  | true       | 1        | positive  | true       | 4          | positive  | true       | 4        | positive  | true       |
| 7        | Macro            | positive                 | positive  | 1        | positive  | true       | 1          | positive  | true       | 2        | positive  | true       | 3          | positive  | true       | 1        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       | 4          | positive  | true       | 4        | positive  | true       |
| 8        | negative         | negative                 | negative  | 1        | negative  | true       | 108        | negative  | true       | 1        | negative  | true       | 131        | negative  | true       | 1        | negative  | true       | 117        | negative  | true       | 1        | negative  | true       | 91         | negative  | true       | 91       | negative  | true       |
| 9        | negative         | negative                 | negative  | 1        | negative  | true       | 87         | negative  | true       | 1        | negative  | true       | 103        | negative  | true       | 1        | negative  | true       | 64         | negative  | true       | 1        | negative  | true       | 71         | negative  | true       | 71       | negative  | true       |
| 10       | negative         | negative                 | negative  | 1        | negative  | true       | 80         | negative  | true       | 2        | negative  | true       | 90         | negative  | true       | 1        | negative  | true       | 52         | negative  | true       | 1        | negative  | true       | 61         | negative  | true       | 61       | negative  | true       |
| 11       | negative         | negative                 | negative  | 1        | negative  | true       | 141        | negative  | true       | 2        | negative  | true       | 160        | negative  | true       | 1        | negative  | true       | 96         | negative  | true       | 2        | negative  | true       | 103        | negative  | true       | 103      | negative  | true       |
| 12       | Micro            | positive                 | positive  | 1        | positive  | true       | 41         | positive  | true       | 29       | positive  | true       | 119        | negative  | false      | 2        | positive  | true       | 7          | positive  | true       | 3        | positive  | true       | 8          | positive  | true       | 8        | positive  | true       |
| 13       | negative         | negative                 | negative  | 1        | negative  | true       | 85         | negative  | true       | 1        | negative  | true       | 99         | negative  | true       | 1        | negative  | true       | 74         | negative  | true       | 1        | negative  | true       | 119        | negative  | true       | 119      | negative  | true       |
| 14       | negative         | negative                 | negative  | 1        | negative  | true       | 84         | negative  | true       | 1        | negative  | true       | 96         | negative  | true       | 1        | negative  | true       | 82         | negative  | true       | 1        | negative  | true       | 79         | negative  | true       | 79       | negative  | true       |
| 15       | negative         | negative                 | negative  | 1        | negative  | true       | 85         | negative  | true       | 1        | negative  | true       | 94         | negative  | true       | 1        | negative  | true       | 42         | negative  | true       | 1        | negative  | true       | 79         | negative  | true       | 79       | negative  | true       |
| 16       | negative         | negative                 | negative  | 1        | negative  | true       | 147        | negative  | true       | 1        | negative  | true       | 89         | negative  | true       | 1        | negative  | true       | 57         | negative  | true       | 1        | negative  | true       | 68         | positive  | false      | 68       | positive  | false      |
| 17       | Micro            | positive                 | positive  | 1        | positive  | true       | 87         | positive  | true       | 2        | positive  | true       | 107        | negative  | false      | 1        | positive  | true       | 54         | negative  | false      | 1        | positive  | true       | 82         | positive  | true       | 82       | positive  | true       |
| 18       | Micro            | positive                 | positive  | 1        | positive  | true       | 1          | positive  | true       | 2        | positive  | true       | 84         | negative  | false      | 1        | positive  | true       | 37         | positive  | true       | 1        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       |
| 19       | negative         | negative                 | negative  | 1        | negative  | true       | 88         | negative  | true       | 1        | negative  | true       | 81         | negative  | true       | 1        | negative  | true       | 82         | negative  | true       | 1        | negative  | true       | 67         | negative  | true       | 67       | negative  | true       |
| 20       | negative         | negative                 | negative  | 1        | negative  | true       | 53         | negative  | true       | 1        | negative  | true       | 114        | negative  | true       | 1        | negative  | true       | 70         | negative  | true       | 1        | negative  | true       | 64         | negative  | true       | 64       | negative  | true       |
| 21       | negative         | negative                 | negative  | 1        | negative  | true       | 59         | negative  | true       | 1        | negative  | true       | 87         | negative  | true       | 1        | negative  | true       | 64         | negative  | true       | 1        | negative  | true       | 80         | negative  | true       | 80       | negative  | true       |
| 22       | negative         | negative                 | ns        | ns       |           |            | 33         | negative  | true       | ns       |           |            | 44         | negative  | true       | ns       |           |            | 89         | negative  | true       | ns       |           |            | 77         | negative  | true       | 77       | negative  | true       |
| 23       | negative         | negative                 | ns        | ns       |           |            | 30         | negative  | true       | ns       |           |            | 37         | negative  | true       | ns       |           |            | 68         | negative  | true       | ns       |           |            | 78         | negative  | true       | 78       | negative  | true       |
| 24       | negative         | negative                 | ns        | ns       |           |            | 34         | negative  | true       | ns       |           |            | 36         | negative  | true       | ns       |           |            | 52         | negative  | true       | ns       |           |            | 62         | negative  | true       | 62       | negative  | true       |
| 25       | negative         | negative                 | ns        | ns       |           |            | 120        | negative  | true       | ns       |           |            | 112        | negative  | true       | ns       |           |            | 121        | negative  | true       | ns       |           |            | 91         | negative  | true       | 91       | negative  | true       |
| 26       | negative         | negative                 | ns        | ns       |           |            | 103        | negative  | true       | ns       |           |            | 153        | negative  | true       | ns       |           |            | 68         | negative  | true       | ns       |           |            | 83         | negative  | true       | 83       | negative  | true       |
| 27       | negative         | negative                 | ns        | ns       |           |            | 112        | negative  | true       | ns       |           |            | 147        | negative  | true       | ns       |           |            | 75         | negative  | true       | ns       |           |            | 54         | negative  | true       | 54       | negative  | true       |
| 28       | negative         | negative                 | ns        | ns       |           |            | 49         | negative  | true       | ns       |           |            | 67         | negative  | true       | ns       |           |            | 53         | negative  | true       | ns       |           |            | 57         | negative  | true       | 57       | negative  | true       |
| 29       | negative         | negative                 | ns        | ns       |           |            | 65         | negative  | true       | ns       |           |            | 122        | negative  | true       | ns       |           |            | 86         | negative  | true       | ns       |           |            | 53         | negative  | true       | 53       | negative  | true       |
| 30       | negative         | negative                 | ns        | ns       |           |            | 70         | negative  | true       | ns       |           |            | 139        | negative  | true       | ns       |           |            | 46         | negative  | true       | ns       |           |            | 47         | negative  | true       | 47       | negative  | true       |
| 31       | negative         | negative                 | ns        | ns       |           |            | 73         | negative  | true       | ns       |           |            | 38         | negative  | true       | ns       |           |            | 112        | negative  | true       | ns       |           |            | 73         | negative  | true       | 73       | negative  | true       |
| 32       | negative         | negative                 | ns        | ns       |           |            | 48         | negative  | true       | ns       |           |            | 42         | negative  | true       | ns       |           |            | 75         | negative  | true       | ns       |           |            | 74         | negative  | true       | 74       | negative  | true       |
| 33       | negative         | negative                 | ns        | ns       |           |            | 27         | negative  | true       | ns       |           |            | 36         | negative  | true       | ns       |           |            | 72         | negative  | true       | ns       |           |            | 65         | negative  | true       | 65       | negative  | true       |
| 34       | negative         | negative                 | ns        | ns       |           |            | 58         | negative  | true       | ns       |           |            | 48         | negative  | true       | ns       |           |            | 129        | negative  | true       | ns       |           |            | 74         | negative  | true       | 74       | negative  | true       |
| 35       | negative         | negative                 | ns        | ns       |           |            | 51         | negative  | true       | ns       |           |            | 40         | negative  | true       | ns       |           |            | 64         | negative  | true       | ns       |           |            | 74         | negative  | true       | 74       | negative  | true       |
| 36       | negative         | negative                 | ns        | ns       |           |            | 52         | negative  | true       | ns       |           |            | 32         | negative  | true       | ns       |           |            | 84         | negative  | true       | ns       |           |            | 70         | negative  | true       | 70       | negative  | true       |
| 37       | negative         | negative                 | ns        | ns       |           |            | 136        | negative  | true       | ns       |           |            | 112        | negative  | true       | ns       |           |            | 172        | negative  | true       | ns       |           |            | 109        | negative  | true       | 109      | negative  | true       |
| 38       | negative         | negative                 | ns        | ns       |           |            | 82         | negative  | true       | ns       |           |            | 116        | negative  | true       | ns       |           |            | 97         | negative  | true       | ns       |           |            | 109        | negative  | true       | 109      | negative  | true       |
| 39       | negative         | negative                 | ns        | ns       |           |            | 64         | negative  | true       | ns       |           |            | 98         | negative  | true       | ns       |           |            | 68         | negative  | true       | ns       |           |            | 89         | negative  | true       | 89       | negative  | true       |
| 40       | negative         | negative                 | ns        | ns       |           |            | 35         | negative  | true       | ns       |           |            | 17         | negative  | true       | ns       |           |            | 89         | negative  | true       | ns       |           |            | 70         | negative  | true       | 70       | negative  | true       |
| 41       | negative         | negative                 | ns        | ns       |           |            | 50         | negative  | true       | ns       |           |            | 34         | negative  | true       | ns       |           |            | 72         | negative  | true       | ns       |           |            | 59         | negative  | true       | 59       | negative  | true       |
| 42       | negative         | negative                 | ns        | ns       |           |            | 48         | negative  | true       | ns       |           |            | 40         | negative  | true       | ns       |           |            | 82         | negative  | true       | ns       |           |            | 50         | negative  | true       | 50       | negative  | true       |
| 43       | negative         | negative                 | ns        | ns       |           |            | 74         | negative  | true       | ns       |           |            | 44         | negative  | true       | ns       |           |            | 96         | negative  | true       | ns       |           |            | 94         | negative  | true       | 94       | negative  | true       |
| 44       | negative         | negative                 | ns        | ns       |           |            | 64         | negative  | true       | ns       |           |            | 49         | negative  | true       | ns       |           |            | 83         | negative  | true       | ns       |           |            | 118        | negative  | true       | 118      | negative  | true       |
| 45       | negative         | negative                 | ns        | ns       |           |            | 70         | negative  | true       | ns       |           |            | 52         | negative  | true       | ns       |           |            | 76         | negative  | true       | ns       |           |            | 94         | negative  | true       | 94       | negative  | true       |
| 46       | negative         | negative                 | ns        | ns       |           |            | 33         | negative  | true       | ns       |           |            | 45         | negative  | true       | ns       |           |            | 74         | negative  | true       | ns       |           |            | 39         | negative  | true       | 39       | negative  | true       |
| 47       | negative         | negative                 | ns        | ns       |           |            | 29         | negative  | true       | ns       |           |            | 47         | negative  | true       | ns       |           |            | 40         | negative  | true       | ns       |           |            | 37         | negative  | true       | 37       | negative  | true       |
| 48       | negative         | negative                 | ns        | ns       |           |            | 31         | negative  | true       | ns       |           |            | 40         | negative  | true       | ns       |           |            | 29         | negative  | true       | ns       |           |            | 39         | negative  | true       | 39       | negative  | true       |
| 49       | negative         | negative                 | negative  | 2        | negative  | true       | 42         | positive  | false      | 3        | negative  | true       | 29         | negative  | true       | 1        | negative  | true       | 50         | negative  | true       | 1        | negative  | true       | 78         | negative  | true       | 78       | negative  | true       |
| 50       | Micro            | positive                 | positive  | 1        | positive  | true       | 19         | positive  | true       | 5        | positive  | true       | 50         | negative  | false      | 2        | positive  | true       | 74         | negative  | false      | 2        | positive  | true       | 49         | positive  | true       | 49       | positive  | true       |
| 51       | Micro            | positive                 | positive  | 1        | positive  | true       | 4          | positive  | true       | 2        | positive  | true       | 55         | negative  | false      | 1        | positive  | true       | 72         | positive  | true       | 1        | positive  | true       | 30         | positive  | true       | 30       | positive  | true       |
| 52       | Macro            | positive                 | positive  | 2        | positive  | true       | 1          | positive  | true       | 3        | positive  | true       | 19         | positive  | true       | 1        | positive  | true       | 4          | positive  | true       | 1        | positive  | true       | 4          | positive  | true       | 4        | positive  | true       |
| 53       | Macro            | positive                 | positive  | 1        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       | 3          | positive  | true       | 1        | positive  | true       | 1          | positive  | true       | 2        | positive  | true       | 3          | positive  | true       | 3        | positive  | true       |
| 54       | Macro            | positive                 | positive  | 6        | positive  | true       | 1          | positive  | true       | 4        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       | 1          | positive  | true       | 3        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       |
| 55       | Macro            | positive                 | positive  | 2        | positive  | true       | 3          | positive  | true       | 2        | positive  | true       | 6          | positive  | true       | 5        | positive  | true       | 3          | positive  | true       | 13       | positive  | true       | 4          | positive  | true       | 4        | positive  | true       |
| 56       | Macro            | positive                 | positive  | 3        | positive  | true       | 3          | positive  | true       | 3        | positive  | true       | 6          | positive  | true       | 2        | positive  | true       | 2          | positive  | true       | 2        | positive  | true       | 4          | positive  | true       | 4        | positive  | true       |
| 57       | Macro            | positive                 | positive  | 1        | positive  | true       | 3          | positive  | true       | 2        | positive  | true       | 5          | positive  | true       |          |           |            |            |           |            |          |           |            |            |           |            |          |           |            |

|    |          |          |          |    |          |       |    |          |       |   |          |      |    |          |       |    |          |       |     |          |       |   |          |       |    |          |      |
|----|----------|----------|----------|----|----------|-------|----|----------|-------|---|----------|------|----|----------|-------|----|----------|-------|-----|----------|-------|---|----------|-------|----|----------|------|
| 78 | negative | negative | negative | 1  | negative | true  | 55 | negative | true  | 1 | negative | true | 77 | negative | true  | 1  | negative | true  | 51  | negative | true  | 1 | negative | true  | 57 | negative | true |
| 79 | Micro    | positive | positive | 7  | negative | false | 25 | negative | false | 5 | positive | true | 33 | negative | false | 12 | negative | false | 26  | negative | false | 5 | negative | false | 15 | positive | true |
| 80 | negative | negative | negative | 1  | negative | true  | 24 | negative | true  | 1 | negative | true | 33 | negative | true  | 1  | negative | true  | 40  | negative | true  | 1 | negative | true  | 27 | negative | true |
| 81 | Micro    | positive | positive | 1  | positive | true  | 19 | negative | false | 3 | positive | true | 19 | positive | true  | 3  | positive | true  | 36  | negative | false | 2 | positive | true  | 9  | positive | true |
| 82 | negative | negative | negative | 1  | negative | true  | 51 | negative | true  | 1 | negative | true | 34 | negative | true  | 1  | negative | true  | 62  | negative | true  | 1 | negative | true  | 40 | negative | true |
| 83 | negative | negative | negative | 1  | negative | true  | 38 | negative | true  | 1 | negative | true | 37 | negative | true  | 1  | negative | true  | 63  | negative | true  | 1 | negative | true  | 28 | negative | true |
| 84 | negative | negative | negative | 1  | negative | true  | 26 | negative | true  | 1 | negative | true | 34 | negative | true  | 1  | negative | true  | 43  | negative | true  | 1 | negative | true  | 30 | negative | true |
| 85 | negative | negative | negative | 1  | negative | true  | 28 | negative | true  | 2 | negative | true | 30 | negative | true  | 1  | negative | true  | 118 | negative | true  | 1 | negative | true  | 73 | negative | true |
| 86 | negative | negative | negative | 1  | negative | true  | 28 | negative | true  | 2 | negative | true | 24 | negative | true  | 1  | negative | true  | 49  | negative | true  | 2 | negative | true  | 42 | negative | true |
| 87 | negative | negative | negative | 1  | negative | true  | 17 | negative | true  | 2 | negative | true | 25 | negative | true  | 1  | negative | true  | 39  | negative | true  | 1 | negative | true  | 36 | negative | true |
| 88 | negative | negative | negative | 1  | negative | true  | 50 | negative | true  | 1 | negative | true | 36 | negative | true  | 1  | negative | true  | 75  | negative | true  | 1 | negative | true  | 42 | negative | true |
| 89 | Macro    | positive | positive | 4  | positive | true  | 27 | positive | true  | 5 | positive | true | 6  | positive | true  | 3  | positive | true  | 8   | positive | true  | 3 | positive | true  | 56 | positive | true |
| 90 | Macro    | positive | positive | 12 | positive | true  | 4  | positive | true  | 2 | positive | true | 4  | positive | true  | 1  | positive | true  | 2   | positive | true  | 2 | positive | true  | 4  | positive | true |
| 91 | Macro    | positive | positive | 3  | positive | true  | 3  | positive | true  | 1 | positive | true | 4  | positive | true  | 1  | positive | true  | 2   | positive | true  | 3 | positive | true  | 2  | positive | true |
| 92 | Macro    | positive | positive | 1  | positive | true  | 1  | positive | true  | 2 | positive | true | 4  | positive | true  | 1  | positive | true  | 1   | positive | true  | 2 | positive | true  | 3  | positive | true |
| 93 | negative | negative | negative | 1  | negative | true  | 63 | negative | true  | 1 | negative | true | 65 | negative | true  | 1  | negative | true  | 31  | negative | true  | 1 | negative | true  | 62 | negative | true |
| 94 | Macro    | positive | positive | 3  | positive | true  | 1  | positive | true  | 1 | positive | true | 3  | positive | true  | 1  | positive | true  | 1   | positive | true  | 2 | positive | true  | 2  | positive | true |
| 95 | Macro    | positive | positive | 2  | positive | true  | 1  | positive | true  | 1 | positive | true | 3  | positive | true  | 1  | positive | true  | 1   | positive | true  | 1 | positive | true  | 3  | positive | true |
| 96 | Macro    | positive | positive | 1  | positive | true  | 1  | positive | true  | 1 | positive | true | 2  | positive | true  | 1  | positive | true  | 1   | positive | true  | 1 | positive | true  | 2  | positive | true |