Table 1. Features of 41 patients with myeloproliferative neoplasms developing a chronic myelomonocytic leukemia-like phenotype.

| Nr | Primary Diagn. | Age/sex | JAK2 Status | Cytoreductive Therapy | Date of Prim. Diagn. | Date of Conversion | Interval (Months) | Trans f. | WBC G/L | Hb g/dl | HC % | PLT G/L | Mo % | AMC G/L |
|----|----------------|---------|--------------|----------------------|----------------------|---------------------|------------------|----------|---------|--------|------|---------|------|---------|
| 1/1| PV             | 63/m    | NA           | HU                   | 4/07                 | 3/09                | 23               | no       | 15.5    | 15.4   | 45.4 | 668     | 10   | 1.6     |
| 1/2| PV             | 74/f    | JAK2 V617F   | -                    | 8/18                 | 3/20                | 19               | no       | 9.4     | 13.3   | 46.9 | 388     | 13   | 1.2     |
| 1/3| PV             | 68/f    | JAK2 V617F   | -                    | 12/16                | 12/16               | 0                | no       | 21.5    | 14.3   | 44.6 | 1148    | 15   | 3.2     |
| 1/4| PV             | 80/m    | JAK2 V617F   | -                    | 7/14                 | 1/16                | 18               | no       | 63.5    | 14.1   | 50.0 | 273     | 18   | 11.4    |
| 1/5| PV             | 51/m    | JAK2 V617F   | HU, ANA              | 5/14                 | 3/16                | 22               | no       | 16.8    | 10.8   | 38.5 | 575     | 14   | 2.4     |
| 1/6| PV             | 78/m    | NA           | -                    | 2/13                 | 12/18               | 70               | no       | 18.9    | 8.8    | 24.6 | 275     | 10   | 1.9     |
| 1/7| PV             | 84/f    | NA           | HU                   | 10/10                | 4/16                | 66               | no       | 38.8    | 8.2    | 24.5 | 549     | 60   | 23.3    |
| 1/8| PV             | 72/f    | JAK2 V617F   | -                    | 11/14                | 9/19                | 58               | no       | 12.2    | 13.4   | 45.3 | 358     | 15   | 1.8     |
| 1/9| PV             | 73/m    | JAK2 V617F   | IFN                  | 5/86                 | 2/20                | 405              | no       | 4.6     | 8.8    | 25.0 | 176     | 50   | 2.3     |
| 1/10| PV            | 67/m    | JAK2 V617F   | HU, AZA, RUX         | 8/14                 | 12/19               | 64               | no       | 29.6    | 10.3   | 31.1 | 225     | 12   | 3.6     |
| 1/11| PV            | 70/f    | NA           | -                    | 4/04                 | 4/04                | 0                | no       | 33.5    | 12.3   | 44.5 | 13      | 20   | 6.7     |
| 1/12| PV            | 82/m    | JAK2 V617F   | Vyxeos               | 5/02                 | 10/19               | 209              | AML      | 4.4     | 8.6    | 25.4 | 72      | 54   | 2.4     |
| 1/13| PV            | 78/m    | NA           | HU, MEP, AZA         | 6/97                 | 2/08                | 128              | AML      | 13.4    | 16.7   | 50.8 | 116     | 10   | 1.3     |
| 1/14| ET            | 72/m    | JAK2 V617F   | IFN                  | 12/99                | 3/11                | 135              | no       | 28.7    | 13.5   | 41.6 | 352     | 14   | 4       |
| 1/15| PMF           | 77/m    | neg          | -                    | 5/05                 | 5/08                | 36               | no       | 4.3     | 11.3   | 34.4 | 69      | 27   | 1.2     |
| 1/16| PMF           | 72/m    | JAK2 V617F   | HU, AZA, RUX         | 2/14                 | 10/15               | 20               | AML      | 176.8   | 6.6    | 22.3 | 86      | 10   | 17.7    |
| 2/1 | PV  | 70/f | JAK2V617F | HU | 11/18 | 11/18 | 0  | no | 9.2 | 18.9 | 56.6 | 529  | 14  | 1.3 |
|-----|-----|------|-----------|----|-------|-------|----|----|-----|------|------|------|-----|----|
| 2/2 | PV  | 61/m | JAK2V617F | IFN, HU | 6/18 | 6/18  | 0  | no | 23.3| 17.4 | 51.9 | 286  | 13  | 3.0 |
| 2/3 | PV  | 84/m | JAK2V617F | HU, RUX | 6/13 | 2/16  | 32 | no | 6.8 | 8.9  | 27.2 | 304  | 17  | 1.1 |
| 2/4 | PV  | 86/f | JAK2V617F | HU | 4/17 | 4/17  | 0  | no | 7.1 | 16.2 | 54.7 | 333  | 17  | 1.2 |
| 2/5 | PV  | 93/f | JAK2V617F | HU | 5/16 | 4/17  | 11 | no | 12.8| 14.0 | 49.9 | 1241 | 12  | 1.5 |
| 2/6 | PV  | 81/m | JAK2V617F | HU | 4/15 | 6/15  | 2  | no | 26.2| 15.6 | 52.0 | 159  | 11  | 2.9 |
| 2/7 | PV  | 70/m | JAK2V617F | HU, AZA, LD-ARAC | 4/11 | 6/13 | 26 | AML | 5.4 | 8.7  | 25.7 | 49   | 14  | 1.1 |
| 2/8 | PV  | 70/m | NA | HU, AZA | 1/10 | 5/16 | 76 | AML | 6.9 | 18.4 | 54.2 | 339  | 16  | 1.1 |
| 2/9 | PV  | 84/f | JAK2V617F | HU | 5/09 | 2/15  | 69 | no | 10.1| 14.8 | 44.1 | 465  | 12  | 1.3 |
| 2/10 | PV  | 76/m | JAK2V617F | HU | 4/08 | 4/08  | 0  | no | 13.0| 16.4 | 48.7 | 370  | 12  | 1.6 |
| 2/11 | PV  | 79/f | neg | LEN, HU, RUX | 3/07 | 7/09 | 28 | no | 16.9| 9.7  | 31.0 | 205  | 18  | 3.0 |
| 2/12 | PV  | 67/f | JAK2V617F | HU, AZA | 7/05 | 11/13 | 100| AML | 5.2 | 6.0  | 17.0 | 83   | 30  | 1.6 |
| 2/13 | PV  | 70/f | JAK2V617F | IFN, HU, ANA, BUS, RUX | 12/93 | 5/18 | 293 | no | 6.4 | 13.0 | 47.8 | 555  | 21  | 1.3 |
| 2/14 | PV  | 69/f | JAK2V617F | HU, RUX | 7/82 | 3/18 | 428 | no | 30.2| 14.1 | 46.7 | 92   | 15  | 3.9 |
| 3/1 | PV  | 65/m | JAK2V617F | HU | 6/12 | 12/19 | 90 | no | 16.9| 13.8 | 44.3 | 584  | 10  | 1.7 |
| 4/1 | PV  | 56/m | JAK2V617F | - | 2/11 | 2/11  | 0  | no | 13.9| 16.4 | 51.9 | 23   | 11  | 1.5 |
| 4/2 | PV  | 70/f | JAK2V617F | IFN | 10/92 | 10/92 | 0  | no | 12.7| 15.1 | 47.5 | 613  | 18  | 2.3 |
| 4/3 | PV  | 57/m | JAK2V617F | HU | 10/10 | 10/10 | 0  | no | 19.2| 16.3 | 47.4 | 667  | 11  | 2.1 |
| No. | Type   | Gender | Age | Race | Status | Diagnosis | WBC | Hb   | HC   | PLT  | Mo  | AMC  | Age | Hb   | HC   | PLT  | Mo  | AMC  |
|-----|--------|--------|-----|------|--------|-----------|-----|------|------|------|-----|------|-----|------|------|------|-----|------|
| 4/5 | PV     | 69/m   | neg | -    | 5/10   | 1/15      | 56  | no   | 9.2  | 11.2 | 34.3| 321  | 12  | 1.1  |
| 4/6 | PV     | 48/m   | NA  | -    | 4/97   | 11/00     | 43  | no   | 14.0 | 14.7 | 43.9| 699  | 11  | 1.5  |
| 4/7 | PV     | 50/f   | NA  | TX   | 10/02  | 7/14      | 141 | AML  | 12.7 | 14.4 | 38.0| 327  | 11  | 1.4  |
| 4/8 | PV     | 85/f   | JAK2 V617F | HU | 8/02   | 11/07     | 63  | no   | 42.8 | 7.4  | 22.9| 18   | 38  | 16.3 |
| 4/9 | PMF    | 73/m   | NA  | -    | 2/91   | 5/98      | 87  | AML  | 34.5 | 8.9  | 28.5| 336  | 10  | 3.5  |
| 4/10| PMF    | 72/f   | JAK2 V617F | IM, HU | 5/99   | 11/00     | 18  | no   | 12.8 | 13.0 | 38.8| 490  | 32  | 4.1  |
| 4/11| PMF    | 67/m   | NA  | -    | 7/98   | 10/98     | 3   | AML  | 10.5 | 9.1  | 28.5| 52   | 25  | 2.6  |

CMML, chronic myelomonocytic leukemia; PV, polycythemia vera; ET, essential thrombocythemia; PMF, primary myelofibrosis; NA, not available; HU, hydroxyurea; ANA, anagrelide; IFN, interferon; AZA, azacitidine; RUX, ruxolitinib; MEP, meprobamate; LD-ARAC, low dose cytarabine; BUS, busulfan; TX, transplantation; IM, imatinib; AML, acute myeloid leukemia; WBC, white blood cell count; Hb, hemoglobin; HC, hematocrit; PLT, platelet value; Mo, monocytes; AMC, absolute monocyte count. The blood pictures in this table are at the time when patients developed a CMML-like phenotype.
Table S2. Variants of additional mutations in patients with MPN/CMML and JAK2-mutated CMML.

| Sample | Gene | cDNA Change | Amino Acid Change | Variant Allele Frequency |
|--------|------|-------------|-------------------|--------------------------|
| 1      | JAK2 | c.1849G>T  | p.Val617Phe       | 79.5%                    |
|        | TET2 | c.570C>T   | p.Gln1903*        | 46.9%                    |
|        | TET2 | c.2626C>T  | p.Gln876*         | 46.0%                    |
| 2      | JAK2 | c.1849G>T  | p.Val617Phe       | 44.2%                    |
|        | TET2 | c. 5473C>T | p.Gln1825*        | 43.4%                    |
|        | TET2 | c.7246C>T  | p.Gln916*         | 42.2%                    |
| 3      | JAK2 | c.1849G>T  | p.Val617Phe       | 68.3%                    |
|        | TET2 | c.1648C>T  | p.Arg550*         | 36.4%                    |
|        | TET2 | c.3508C>T  | p.Gln1170*        | 34.4%                    |
| 4      | JAK2 | c.1849G>T  | p.Val617Phe       | 7.3%                     |
|        | TET2 | c.1064G>A  | p.Gly376Asp       | 62.2%                    |
|        | ASXL1| c.2261C>A  | p.Glu635fs        | 38.0%                    |
| 5      | EZH2 | c.553G>C   | p.Asp185His       | 36.0%                    |
|        | SRSF2| c.284C>T   | p.Pro95His        | 49.0%                    |
|        | NRAS | c.35G>A    | p.Gly12Asp        | 28.5%                    |
|        | SETBP1| c.691>G    | p.Val231Leu       | 74.3%                    |
| 6      | JAK2 | c.1849G>T  | p.Val617Phe       | 46.0%                    |
|        | TET2 | c.3094C>G  | p.Leu1032Val      | 50.2%                    |
|        | ASXL1| c.3217C>T  | p.Arg1073Cys      | 52.7%                    |
|        | SRSF2| c.284C>A   | p.Pro95His        | 46.3%                    |
|        | CSF3R| c.1213G>A  | p.Glu405Lys       | 51.6%                    |
|        | RUNX1| c.898delA  | p.Thr300Rfs*11    | 46.5%                    |
| 7      | JAK2 | c.1849G>T  | p.Val617Phe       | 96.7%                    |
|        | ASXL1| c.2077C>T  | p.Arg693*         | 49.5%                    |
|        | KRAS | c.35G>A    | p.Gly12Asp        | 28.1%                    |
| 8      | JAK2 | c.1849G>T  | p.Val617Phe       | 39.6%                    |
|        | IDH2 | c.419G>A   | p.Arg140Gln       | 44.6%                    |
|        | SRSF2| c.283C>A   | p.Pro95Thr        | 45.0%                    |
|        | CEBPA| c.584_589delACCGC | p.His195,Pro196dup | 43.5%                |
| 9      | JAK2 | c.1849G>T  | p.Val617Phe       | <5.0%                    |
|        | IDH1 | c.394C>T   | p.Arg132Cys       | 32.3%                    |
|        | U2AF1| c.101C>T   | p.Ser34Phe        | 42.1%                    |
| 10     | JAK2 | c.1849G>T  | p.Val617Phe       | 7.0%                     |
|        | U2AF1| c.101C>A   | p.Ser34Tyr        | 42.3%                    |
| 11     | JAK2 | c.1849G>T  | p.Val617Phe       | 33.6%                    |
|        | KRAS | c.34G>C    | p.Gly12Arg        | 24.5%                    |

**JAK2-mutated CMML**

| Sample | Gene | cDNA Change | Amino Acid Change | Variant Allele Frequency |
|--------|------|-------------|-------------------|--------------------------|
| 12     | JAK2 | c.1849G>T  | p.Val617Phe       | 91.6%                    |
|        | TET2 | c.3541G>A  | p.Val1181Ile      | 40.7%                    |
| 13     | JAK2 | c.1849G>T  | p.Val617Phe       | 8.9%                     |
|        | TET2 | c.4579C>T  | p.Gln1527*        | 48.0%                    |
|        | SRSF2| c.284C>T   | p.Pro95Leu        | 48.7%                    |
|        | KIT  | c.2447A>T  | p.Asp816Val       | 27.5%                    |
| 14     | JAK2 | c.1849G>T  | p.Val617Phe       | 43.6%                    |
|        | TET2 | c.4223A>G  | p.Asn1387Ser      | 48.3%                    |
|        | TET2 | c.1608A>G  | p.Ile1762Val      | 52.3%                    |
| 15     | JAK2 | c.1849G>T  | p.Val617Phe       | 31.2%                    |
|   | TET2 | TET2 | U2AF1 | U2AF1 |
|---|------|------|-------|-------|
|16| TET2 | TET2 | U2AF1 | U2AF1 |
|  | c.5284A > G | c.1849G > T | c.691G > C | c.1849G > T |
|  | p.Ile1762Val | p.Val617Phe | p.Val231Leu | p.Val617Phe |
|  | 52.1% | 42.3% | 47.3% | 26.2% |
|17| TET2 | TET2 | U2AF1 | U2AF1 |
|  | c.1849G > T | c.1608A > G | c.251A > G | c.101C > A |
|  | p.Val617Phe | p.Ile1762Val | p.Val231Leu | p.Val617Phe |
|  | 45.2% | 50.0% | 50.0% | 85.3% |
|18| TET2 | TET2 | U2AF1 | U2AF1 |
|  | c.1849G > T | c.1849G > T | c.1849G > T | c.1849G > T |
|  | p.Val617Phe | p.Val617Phe | p.Val617Phe | p.Val617Phe |
|  | 49.0% | 49.0% | 49.0% | 49.0% |
|19| TET2 | TET2 | U2AF1 | U2AF1 |
|  | c.1530G > T | c.284C > A | c.1849G > T | c.1849G > T |
|  | p.Arg95His | p.Gly60Val | p.Val617Phe | p.Val617Phe |
|  | 38.8% | 48.3% | 48.8% | 49.5% |
|20| TET2 | U2AF1 | U2AF1 | U2AF1 |
|  | c.1608A > G | c.251A > G | c.1849G > T | c.1849G > T |
|  | p.Ile1762Val | p.Val231Leu | p.Val617Phe | p.Val617Phe |
|  | 50.0% | 50.0% | 34.9% | 49.5% |
|21| TET2 | TET2 | U2AF1 | U2AF1 |
|  | c.2204A > G | c.2077C > T | c.284C > A | c.3430dupG |
|  | p.Tyr735Cys | p.Arg693Cys | p.Pro95His | p.Glu1144Glyfs* |
|  | 22.6% | 36.4% | 47.1% | 44.5% |
|22| TET2 | DNMT3A | U2AF1 | U2AF1 |
|  | c.2204A > G | c.2077C > T | c.101C > A | c.101C > A |
|  | p.Tyr735Cys | p.Arg693Cys | p.Val617Phe | p.Val617Phe |
|  | 66.6% | 36.4% | 85.3% | 85.3% |

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