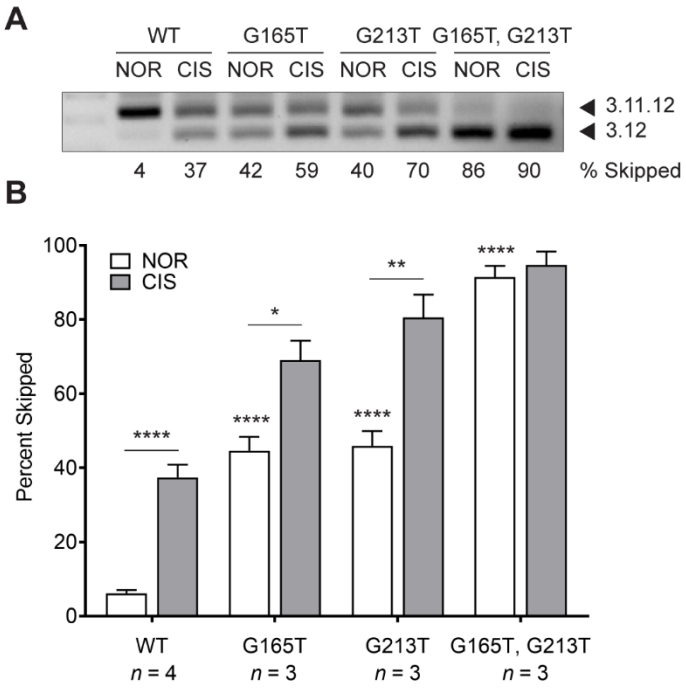
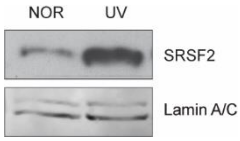
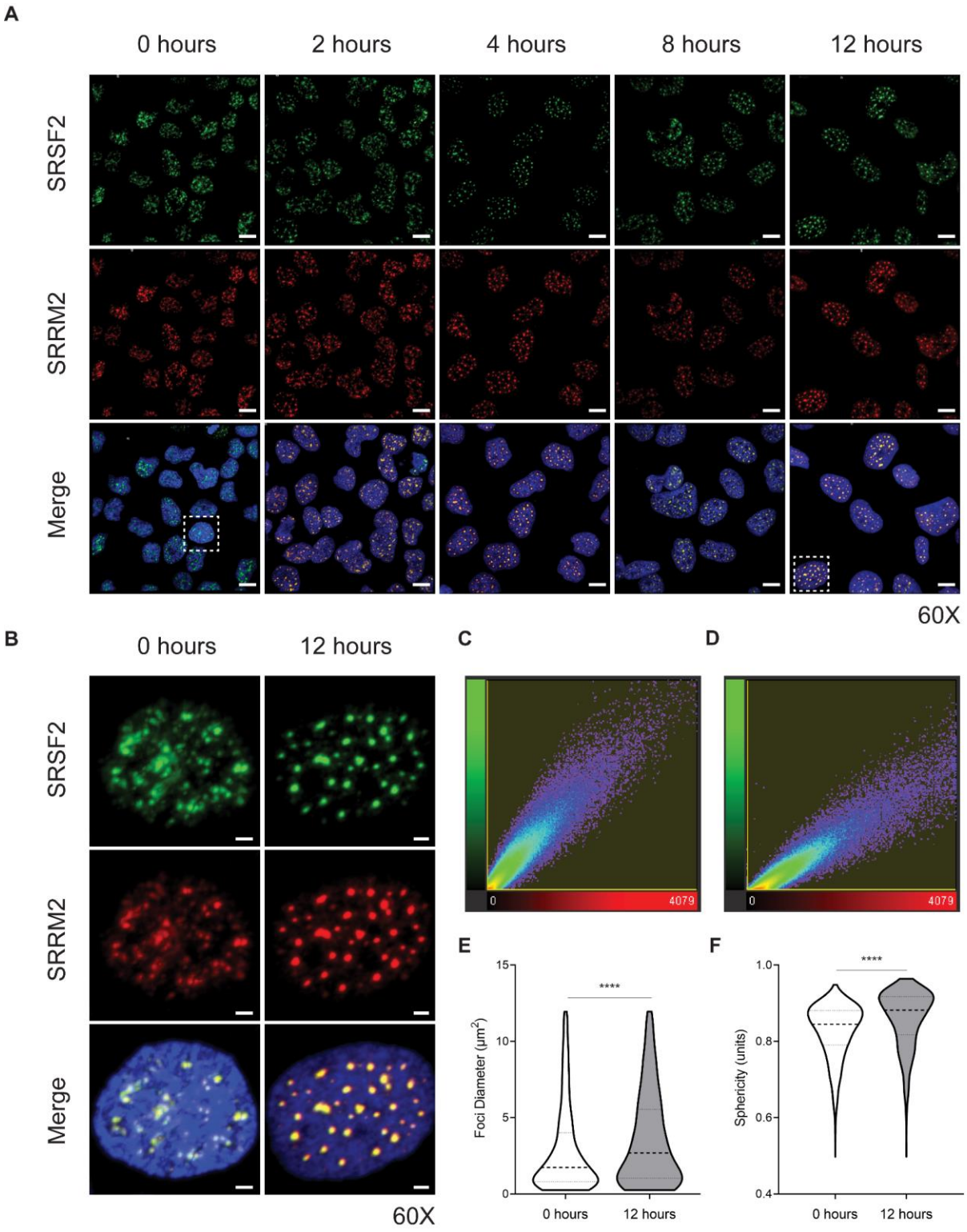


Supplemental Figure S1: Mutation of predicted binding sites for SRSF2 disrupt alternative splicing regulation of the *MDM2* 3-11-12*s* minigene in response to cisplatinum.
A. *MDM2* 3-11-12*s* minigenes were transfected into MCF7 cells for 24 hours, then treated under normal (NOR) with 75 μM cisplatinum (CIS) conditions, and harvested 24 hours later. SRSF2 site mutants (G165T p = 7.911e-05, G213T p = 9.770e-05, G165T, G213T p = 6.451e-07) displayed elevated expression of 3.12 under normal conditions compared to the wild-type *MDM2* 3-11-12*s* minigene. The damage induction of the 3.12 product was maintained in all constructs with the exception of *MDM2* 3-11-12*s* G165T, G213T construct. **B.** The bar graphs represent the percentage of 3.12 skipped product obtained from three independent experiments under each condition depicted in panel A. All error bars represent standard error of the mean (SEM).

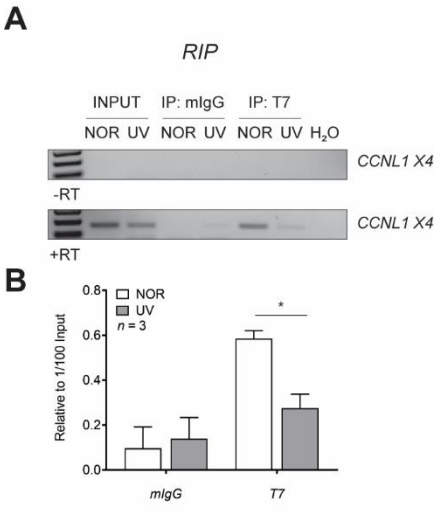


Supplemental Figure S2: SRSF2 protein expression is increased after UVC treatment. Expression of SRSF2 in the nucleus of HeLa cells at 0 hours or 12 hours after 50 J/m^2 UVC treatment. A representative Western blot from three independent trials is shown.

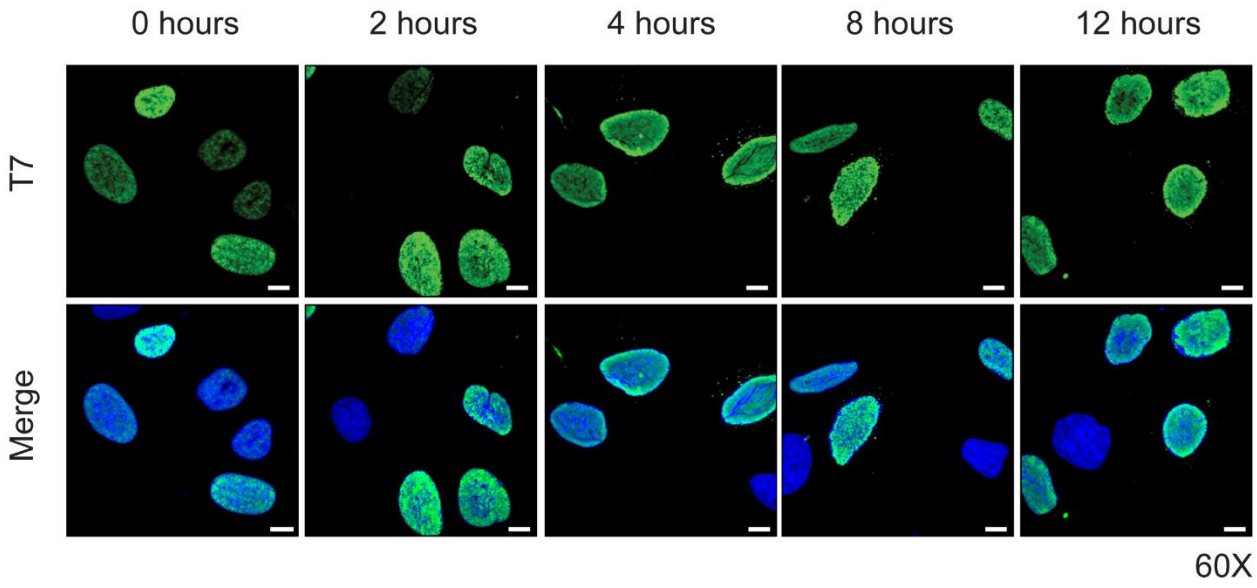


Supplemental Figure S3: SRSF2 is relocalized upon UVC treatment.
A. UVC time course in HeLa shows that SRSF2 (green) and SRRM2 (red) were relocalized in the nucleus (DAPI, blue) to larger nuclear speckles after 12 hours of treatment with 50 J/m^2 UVC as compared to 0 hours. White boxes indicate cells used as inset for panel. Scale bar is 20 μm. **B.** Zoomed in panel of SRSF2

and SRRM2 expression at 0 and 12 hours after UVC treatment. Scale bar is 2 μm. **C.** Colocalization histogram of SRSF2 (green) and SRRM2 (red) channels. SRSF2 and SRRM2 show strong colocalization at 0 hours of UVC treatment (Pearson's coefficient $r^2 = 0.94$). **D.** Colocalization histogram of SRSF2 (green) and SRRM2 (red) channels. SRSF2 and SRRM2 show strong colocalization at 12 hours of UVC treatment (Pearson's coefficient $r^2 = 0.94$). **E.** Quantitation of average SRSF2 nuclear foci diameter at 0 hours and 12 hours after UVC treatment in HeLa cells (0 hours $n = 1460$, 12 hours $n = 939$; $p = 1.542e-09$). **F.** Quantitation of average SRSF2 nuclear foci sphericity at 0 hours and 12 hours after UVC treatment in HeLa cells (0 hours $n = 1460$, 12 hours $n = 939$ 12 hours; $p = 9.736e-26$). Images were analyzed using Imaris x64 v9.3.0. Foci diameter and sphericity were measured using the following parameters: no smoothing, 519.873 threshold, area between 0.25 and 12.00 μm^2.



Supplemental Figure S4: SRSF2 has less affinity of *CCNL1* exon 4 under UVC treatment.
A. RNA immunoprecipitation of T7-SRSF2 and amplification of *CCNL1 exon 4*. SRSF2 displayed decreased affinity for *CCNL1* exon 4 under UV as a compared to normal conditions (p = 0.012). Input levels represent RNA levels in 1/100 of immunoprecipitation. Negative isotype (mIgG) and no reverse transcriptase (-RT) controls are also shown**. B.** The bar graphs represent the percentage *CCNL1* exon 4 RNA product relative to 1/100 input obtained from three independent experiments under each condition depicted in panel A. All error bars represent standard error of the mean (SEM).



Supplemental Figure S5: Exogenous SRSF2 is expressed in the nucleus. UVC time course in HeLa shows that T7-SRSF2 (green) is expressed in the nucleus (DAPI, blue). Scale bar is 20 μm.

Supplemental Table S1: Oligonucleotides

Name	*Sequence*
Mdm2 3-11-12s F1	GTTCGGATCCGCCAATGTGCAATACCAACATGTCTG
Mdm2 3-11-12s R1	TCTCAGTAAGTCTTATGCGATAATCCAGGTTTCAATTTTGTT
Mdm2 3-11-12s F2	ACCTGGATTATCGCATAAGACTTACTGAGAATTCTGGCTT
Mdm2 3-11-12s R2	GTAACTCGAGCCTCAGCACATGGCTCT
Mdm2 4-11-12s F1	GAGCCCGGGCGGATCCGTTAGACCAAAACCATTGCTTTTGAA
Mdm2 4-11-12s R1	TCTCAGTAAGTCTTAATCTCACTCAAACTTGAAAAACCACCA
Mdm2 4-11-12s F2	AAGTTTGAGTGAGATTAAGACTTACTGAGAATTCTGGCTT
Mdm2 4-11-12s R2	CGGGCCCCCCCTCGAGCCTCAGCACATGGC
MDM2 X11 RIP F1	TTCCCCTTTACACTCACTT
MDM2 X11 RIP R1	TACAGGTCTCATCACAACAAATAA
MDM2 X11 RIP F2	TTTCCCCCTTTACACTCACT
MDM2 X11 RIP R2	AAATTTCAGGATCTTCTTCAA
CCNL1 F1	GGAGATGCCACAAATAAAAT
CCNL1 R1	ATGAACACAAAATCCCAACTCC
Mdm2 F1	GATTACAAGGATGACGACGATAAG
Mdm2 R1	GGTCCAGCATCTTTTGCAGTGTGATGG
Mdm2-MS2 F1	ACACTATGAAAGAGGACTATTGGAA
Mdm2-MS2 R1	TTTCACGCTTTCTTGGCTGC
SRSF2-165 WT	UAUCAGGCAGGGGAGAGUGAU
SRSF2-165 MUT	UAUCAGAAAGGGGAGAGUGAU
SRSF2-213 WT	UAUCAGGCAGGGGAGAGUGAU
SRSF2-213 MUT	UAUCAGAAAGGGGAGAGUGAU
NS-siRNA sense	AAGGUCCGGCUCCCCCAAAUG
NS-siRNA	CAUUUGGGGGAGCCGGACCUU
SRSF2 siRNA sense	UUGGCAGUAUUGACCUUAUU
SRSF2 siRNA antisense	UAGGUCAAUACUGCCAAUU
NS-SSO	AUAUAGCGACAGCAUCUUCC
SSO1	CUGCCUGAUACACAGUAACU
SSO2	UUUCAGCAUCUUCUUCAAAU
SSO3	GAAAUUUCAGGAUCUUCUUC